631 a very ancient tribe, the Isbeten, who were the autochthons of the Ahaggar and whom the Dăg Rali would have found in Ătakor when they came to settle there.

After the battle at Tit where they lost more than 100 fighters, the Dăg Râli still numbered 60 warriors. The 1938 census gives 1, 090 persons, 334 of them men, including the Iklan. This increase is quite rare among the Tuareg and reflects their wealth and the improvement of their living conditions since the French occupation.

[161] [177] [511]

They nomadize in the western part of the Koudia, which is their absolute fief where no other fraction is admitted.

/192/ On the east, the boundaries of the lands over which they range are fixed by the right bank of the Tamanrasset wadi and the Interkadène wadi as far as Ideles; on the south by the southern zone of the Tahalra as far as Tin Dahar; on the west by In Eker; and on the north by the line from In Eker to Hirhafok to Ideles.

631 651 The Dăg Râli pay a tribute of ten bags of dates or sorghum to the aménokal; in addition, each family which sends a caravan to the Sudan pays him a small bag of sorghum. If the pastures are good, they add several "botta" of melted butter and the milk of twenty ewes. In the case of a successful raid, they pay the nobles half of the ewes.

631 233 556 439 The Dăg Râli are now the richest people in the Ahaggar. They own more than 1, 200 goats and more than 1, 000 camels. Thanks to their beasts of burden, they can take many very remunerative caravans to the Sudan and to the Tidikelt. They hold in common escheated flocks which are called Edjeré-n-boutelma. When the pastures are insufficient to feed all their livestock, they entrust their camels to the Irréguénaten who graze them on the Saharo-Sudanese border.

631 241 423 Since they are very open-minded, they were in favor of cultivation in the centers of the Ahaggar, and at the present time they possess lands at Ilâman, Tarahananet, Tamanrasset, Abălessa, Iglen, Tăfărit, I-n-Ămegel, and Silet, which Negroes cultivate for them. The aménokal has granted them a certain number of palm trees in the Silet oasis which formerly belonged to the Tăitok.

563 631 They are not vassals like the Irréguénaten and the Ibettenâten, but are incorporated.

563 173 According to a tradition reported by Dr. Richer, (1) the

1. Les Oulliminden, p. 71.

Issekkemâren are the descendants of the family of the Sagmara, pointed out in the Âdrar des Ifôras and in the region of Gao by El Bekri. They were driven back by the Sonrhai invasion and came to take refuge among the northern Tuareg while a small fraction remained in the south in the environs /199/ of Timbuktu and today has a marabout character.

[197] 197 [648] Although they are more Islamized than the other tribes, they are nonetheless Tuaregized in the sense that they follow Tuareg customs and speak Tamashek. Many of them speak Arabic fluently, either because of their origin or because of their constant relations with the Tidikelt.

173 563 631 At the time of the division of the Imrad, some tribes were bestowed upon the Kel Rela, others on the Tâitok and the Tégéhé-Mellet. The tribes attached to the Kel Rela are the Ihéiaouen Hâda, the Kel Immîdir, the Kel Tazoûlet, the Kel Tâfedest, and the Kel In Rhar'.

563 439 484 233 They are all great caravaneers who trade a great deal on the Tidikelt markets. They own a large number of camels and their camel raising is particularly renowned.

563 [173] The Iheiaouen Hada. -- The Iheiaouen Hada, also called Oulad Elias or Ihéiaouen-n-Temounent, are said to be descended from an Arab woman who was seized at Touat. The word Iheiaouen means in Tamashek "the grandsons of . . . ," so that we must conclude that the people of this tribe are the descendants of a woman named Ada.

[221] They nomadize in the Tâfedest massif near Âdenek, Abezou, In Takoufi, Eguelougal, and Tidessi. During dry periods they lead their camels to the Saharo-Sudanese borders in the neighborhood of the Tamaïa well.

631 The Kel I-n-Toûnîn owe their name to the wadi near which they ordinarily nomadize in the Tăfedest massif. At the end of the last century they took advantage of the dissensions existing between the Tăitok and the Kel Rela as well as the internal strife of the [651] Tăitok to free themselves of the latter. They moved to the Ăjjer, claiming kinship with them, but they pay them no taxes.

After their surrender to the French, the Tăitok reclaimed them, and General Laperrine agreed to their demand.

[649] They took a big part in the rebellion of 1916 and were the first to rise up, for they were under the direct influence of the Ăjjer.

Taking refuge in Fezzan at first, they set about combating us by launching raids against the fractions under our influence. Later they participated in the combat of Aïn el Hadjadj. Then they went to the Sudan, where they succeeded in taking with them a number of Tăitok, their Chief Amri among them, in spite of the efforts Moussa ag Ămastân made to keep them.

[162] They number about 20 tents which camp in the north of the Tăfedest massif and go up as high as the Ădrar Ifetessen on the foothills of Immîdir.

[582] They are allied to the Tégéhé Mellet by recent marriages.

[233 Famous as good herders, they own about 100 camels and 300
439] goats. They are also good caravaneers who trade on the markets of In Salah, Ghat, and Ghadames.

[241] They have a few gardens cultivated at Ideles and in the Tassili centers of cultivation.

[162] The Iouarouaren. -- The Iouarouaren form a little tribe of about 15 tents, which nomadizes with the Kel Ăhnet in the Adrar.

Some say they are natives of Aïr, others say of the Ăjjer.

193 /210/ When an Ăjjer (or Ifôras) woman had been taken prisoner
631 by the Aïr people, according to Sidi ag Kéràdji, it was Ămastân ag Ourzig, maternal uncle of Sidi, who paid her ransom and married her to a Kel Ăhnet; from this union sprang the Iouarouaren. (1)

619 Kel-I-n-Tounîn Imrad rather than accept the supremacy of Moussa
648 ag Amastân and the Kel Rela. For a long time they kept up the agitation, encouraged by the former Aménokal Attici ag Amellal, and they were one of the causes of our difficulties with the Ajjer.

619 It is now a small tribe of about 15 tents nomadizing near
[162] Amegid, the Ounane, the Eguéré, and /212/ Tiramar. Its strength comes especially from its vassals, who could not be more turbulent.
[669] They probably participated in the massacre of the Flatters mission, and Attici and Anaba ag Amellal, the leaders of the drama, belonged to that fraction.

The Tégéhé-Mellet have no Imrad properly speaking, but several Issekkemâren fractions are enfeoffed to them.

The Kel Terourirt. -- The Kel Terourirt are Issekkemâren and nomadize northeast of the Ahaggar near Tiramar, Tahihaout,
[162] Ounane, the Eguéré, and the Garet ed Djenoun. They number 25 tents at the moment:

[669] During the 1916 events, they followed the Kel Ouhet and the Kel I-n-Tounîn in rebelling.

[651] They pay the amrar of the Tégéhé Mellet a tioussé which annually adds up to four bags of dates and four goats.

The Kel Ouhet. -- Like the Kel Térourirt, the Kel Ouhet are Issekkemâren. They are subdivided into several small fractions: the
[162] Kel Raris, the Dag-Khamaya, and the Dag Iknân. In all there are about 40 tents (51 persons in the 1938 census, 23 of them men).

They camp in the northern part of the Tafedest massif and go as far as Amegid and into the Igharghar Valley.

[233] They own a number of camels and frequently visit the markets
[439] of the Tidikelt and Ghat.

Some of them have left the Ahaggar and now live in the Ajjer.

The Kel Torha. -- The Kel Torha, or Dag Houa, are Ait Loaien and their small fraction is in the process of disappearing. Although
[651] they live with the Ait Loaien who belong to the Kel Rela tobol, they pay the annual tioussé of a mézoued of dates to the Tégéhé-Mellet.

In addition, they robbed caravans who happened into their country, hatefully ransoming the voyagers. Sometimes they went to empty the granaries of the sedentary people of the oases or the Sudanese villages, capturing Negroes and Negresses to sett as slaves.

When peace reigned in their country, they willingly organized /218/ caravans to go to the Tidikelt or Touat oases and bring back dates, or else to the Sudan to get supplies of millet. They also made themselves the protectors of caravans crossing their country, naturally making the caravaneer pay a consistently high duty in merchandise.

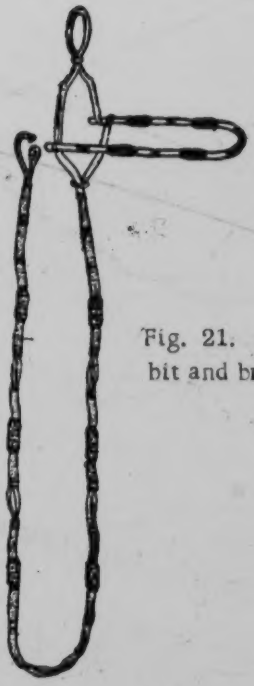

Fig. 21. Camel bit and bridle.

The Ahaggar has famous salt mines in the region called Amadror which lies to the east of the Tafedest massif in a large depression. They are an appreciable resource for the Ihaggaren, but manpower is needed to exploit them. Then, transportation and circulation demand a general state of peace in which the numerous herds of pack camels can be protected from possible surprise attacks and raids. That is why the Amadror salt deposits remained unexploited for a long time before the French occupation, because of the state of perpetual war existing between Ahaggar Tuareg and Tassili Tuareg.

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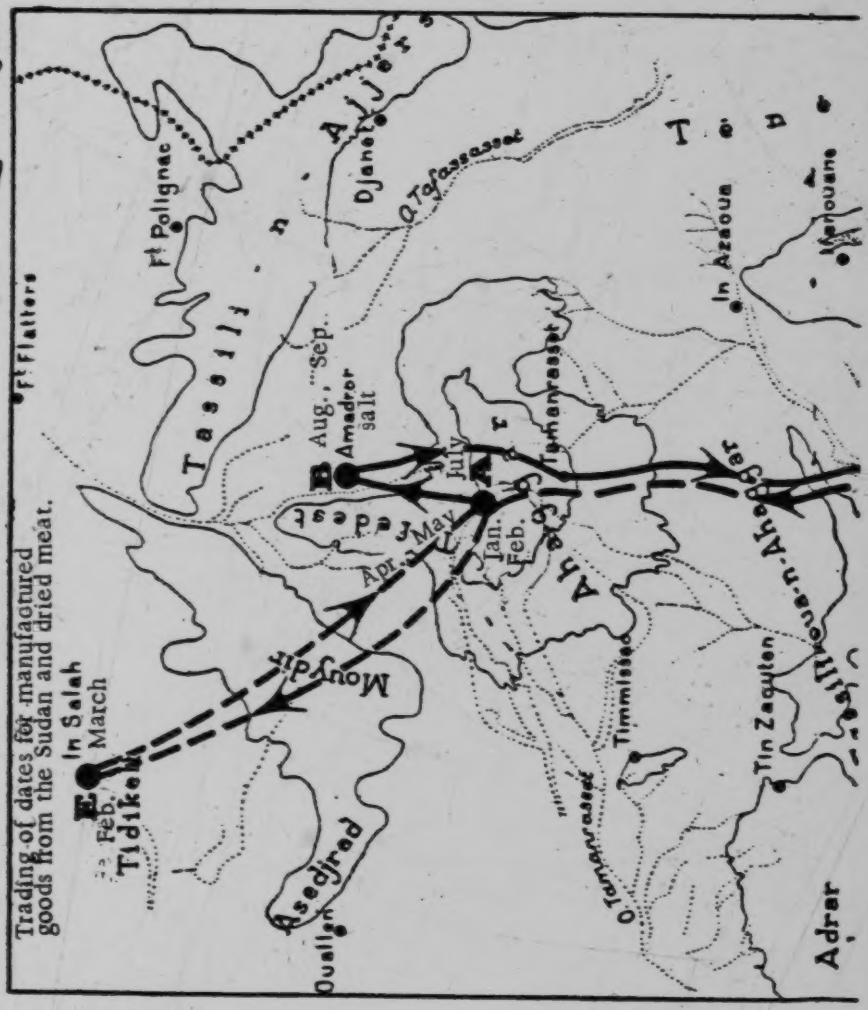

Map V. Diagram of the caravan cycle of the Ahaggar Tuareg.

A. Center of transhumance and point of departure of the caravan cycle. B. Center of salt extraction. C. Region of stocking of salt and of temporary nomadization. D^1 D^2 D^3. Center of trade of salt for grain.

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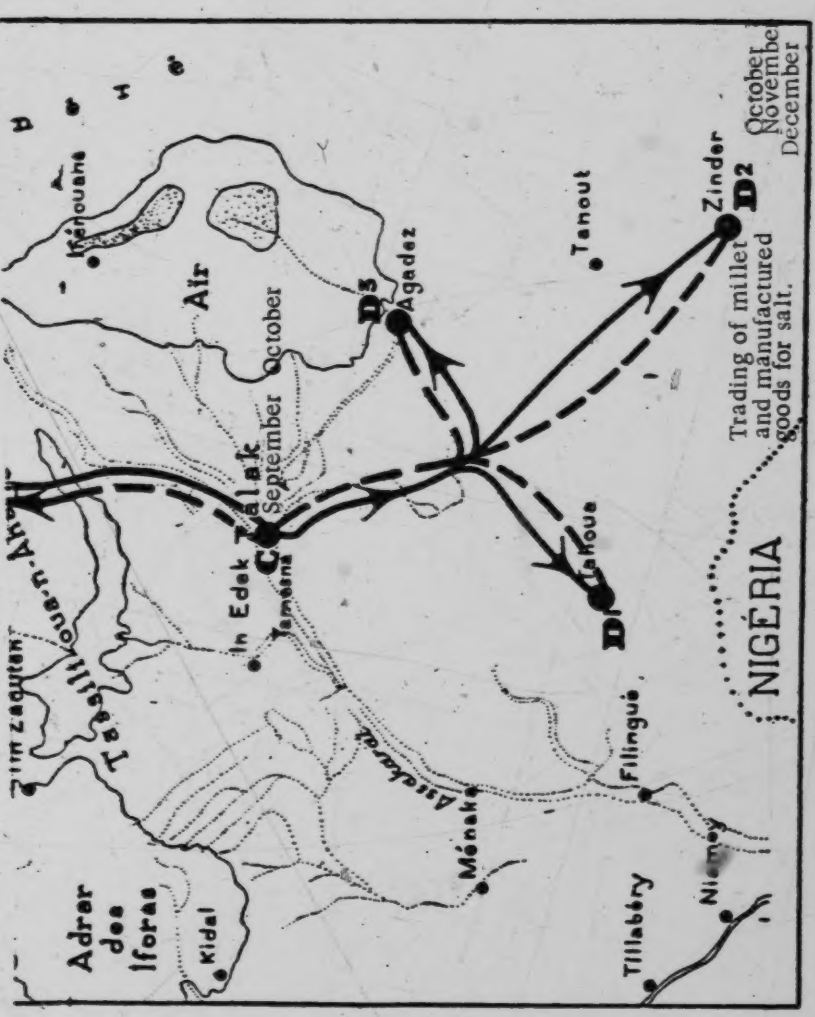

E. Center of trade of manufactured goods and dried meat for dates after return from A.

436 The ideal medium of exchange is the salt which [492] abounds in the Sahara and which is totally lacking in the Sudan. 439 Thus we see a caravan cycle spread out over a whole year and thousands of kilometers. This is all the more viable /sic/ for the Ihaggaren since it makes use of their many camels which otherwise might remain unused in part.

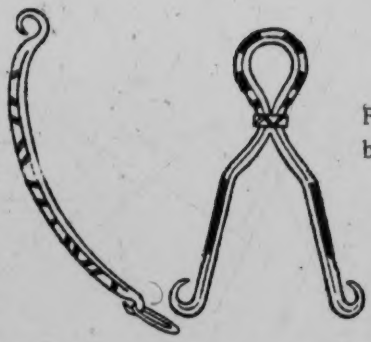

Fig. 22. Camel bit (detail).

317 The starting point is naturally the salt [415] deposit. The mine /219/ is open; one need only detach the salt in pieces and place it in leather bags to transport it. This labor is kept for the Iklan, who arrive at the salt deposits during the summer and [492] stay there from three weeks to a month. Each camel owner operates at will, and transports the salt to his camp after extracting it.

Fig. 23. Device for attaching the camel's bridle.

439 Toward mid-September, all the 481 caravaneers gather together by tribes. [487] Soon they leave their families in the Ahaggar and take the long route for the Sudan, crossing the Tanezrouft. Thus one may see caravans of 100 to 150 camels, but rarely more, for the pasture grounds would not allow it. The arrival in the Sudan must occur after the rainy

season which generally ends with the month of September. 439
When the caravaneers arrive earlier, they wait in the Tamasna 484
region and protect their salt by hiding it in the crags of the rocks.

At any rate they always stay at least two months in that region so that their camels may regain their strength. Then, they go in small groups toward the Damergou where they know people in some villages with whom they exchange their salt for millet. These exchanges are made on variable bases, depending on whether or not the millet harvest has been abundant, or whether the salt has arrived in greater or lesser quantity. Most generally they are made on the basis of one load of salt for three loads of millet, but sometimes in the proportion of one load of salt for ten loads of millet, which is much to the advantage of the Ihaggaren.

Fig. 24. Irratimen sandal of Hausa make, such as the Ihaggaren wear.

Since they do not have enough camels to carry all this grain back, and since they do not need that much grain in the Ahaggar, they sell or exchange a good part of it for manufactured objects, which are easy to transport and /220/ easy to dispose of -- sandals, saddle bags, camel saddles, leather boxes,

439 cotton clothes, and Sudanese-made lithams /veils/. Then after
484 two months of rest spent in the Sudan, during which time the camels revel in the rich pasture, they all set out again for the Ahaggar, where they arrive from January on. February and March see them leave again for the Tidikelt or Touat. At that time they take only a few camels and exchange the excess manufactured articles which they collected in the Sudan and trade dried mutton for dates. This trip lasts an average of two months, and toward the end of April everyone is back in the Ahaggar, as a rule. There is a rest of a few weeks, and everyone thinks about the next salt campaign he is going to have to prepare.

Thus we see a complete caravan cycle which, by itself, could
[461] allow the Tuareg a normal life. But as we have said, it implies a state of peace which was previously the exception, as well as an amount of work to be furnished which is not always in harmony with the warlike tastes of the Imochar.

224 Hunting supplies some employment for the Tuareg, as does gathering. But both of them are only uncertain pastimes, without
221 much profit. The life of the Tuareg may thus be summed up in a few lines: basic animal husbandry doubled by brigandage raised to the state of an institution, and accessorily by some caravaneering. Now we shall see the domestic life of the Tuareg.

/221/

Chapter 2

Dwellings

361 The camp. -- The camp is the traditional Tuareg form of
621 habitation; it is connected with nomadism which always implies animal husbandry. It includes a certain number of people gathered together under a patriarchal authority by very close bonds of kinship.

the tortures of hell. Iblis, however, communicated his secret to the blacksmiths, who since that time have known how to use it for metalworking.

The Tuareg used to obtain fire by friction, using a board of torha (callotropis procera) and a branch of hardwood; they caught the spark on a tuft of silk from the fruit of the callotropis and blew on it until they got a flame, which required about a minute. They have kept this practice and still use it occasionally.

Today they find matches sold by /228/ Tamanrasset merchants, but they all have tinderboxes with flint and a bent piece of iron.

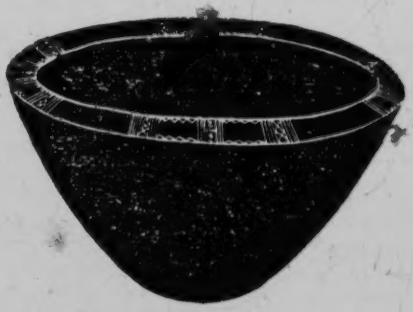

Fig. 27. Ahaggar Tuareg dish, imported from Hausa country.

They do not keep up the fire. They carry it from one tent to the other in a fragment of an old gourd or sometimes hold a glowing ember in their hands without burning themselves. When they want to transport it long distances, they use camel-dung embers.

The Tuareg commonly use the excrement of camels and goats as fuel. In the high mountains, wood is quite rare, but in the lower parts of the Koudia old acacia or éthel /atle? Ed./ stumps are to be found. They never use the wood of the callotropis, which is the devil's tree and makes muffled noises when it is burned.

Basalt blocks are never used to make the hearth, since they believe that basalt is possessed by genii and will explode violently when heated.

Furniture. -- We have briefly described the objects furnishing the parts of the tent reserved for the husband and wife. To these must be added a certain number of objects which make up the

According to what we know of the production of the cultivated lands of the Ahaggar itself and according to what the Tuareg are obliged to import, we may know approximately their needs. During the good years, local production is equivalent to only one quarter of the needs. It may be evaluated at 150 tons. To this must be added wheat production, but this cannot be taken in consideration insofar as consumption is concerned, since it is almost entirely destined for export. It follows from this that import needs amount to 4, 000 loads of millet a year, calculated at 150 kilograms each, making 600 tons, which are for the most part bought or exchanged at Damergou or in the Tahoua region. The annual demand for dates is 400 loads.

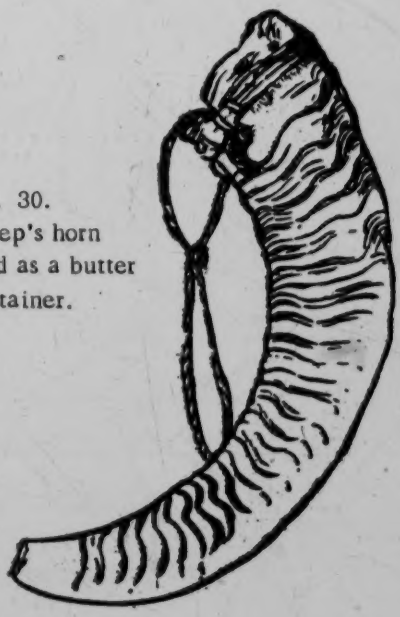

Fig. 30. Sheep's horn used as a butter container.

From these figures it follows that the annual needs per person are approximately one load of millet and one-tenth of a load of dates.

Individual consumption may thus be estimated at 187 kilograms of millet and 15 kilograms of dates per year, while an identical calculation /232/ for the Saharian Arabs has given us 180 kilograms of wheat and 75 kilograms of dates. But we must not deceive ourselves. These figures are drawn up for years, if not of abundance, at least of relative facility. Indeed, the annual average is very much lower, for the Ihággaren do not always have at their disposal the means of exchange to meet their needs, and one may reduce the figures cited above by a good third, sometimes even by half.

[114] For his part, Commander Cauvet, in describing Tuareg clothing, said that men kept their pipes and tobacco in the pocket of their big blouses.

Thus all these testimonies coming from such trustworthy travelers tried to make us believe that the Tuareg are pipe smokers. For our part, we have never seen any.

On the other hand, they are very fond of chewing tobacco, and their wives also practice this custom, so that they finally have a deformation of the lower lip caused by the craze they have of stowing the quid between the gum and lower lip.

[439] Tobacco is not cultivated in the Ahaggar; it is imported from the Touat by the Arabs. The Sudanese Tuareg get it from the sedentary peoples of the Niger or through caravaneers from Upper Dahomey. They generally add a few natron crystals to it to take away the acridity, or else the ashes of graminaceae which play the same role as natron.

Many Nigerian Tuareg have formed the habit of chewing kola nuts; this is a powerful stimulant which the Negroes use a good deal. A few Ihaggaren /239/ indulge in this practice when they go to the Sudan, but they have not introduced it into their everyday mores and never use kola when they are in their own country.

The Tuareg are subject to a rather large number of dietary interdicts. First, like Moslems, they may eat only meats from ritually butchered animals. They must abstain from eating the [273] meat of pigs and wart hogs and from drinking fermented drinks which are harīm. The meat of fowls--except the ostrich -- and fish is also forbidden and considered impure. But these are customs which go back before Islam. They also may not eat the [825] meat of the uran, because this lizard is considered to be the descendant of their maternal uncle.

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	1911	1938
T-i-n-Ămenser	36	temporarily abandoned
Tifert	50	" "
Essélésékin	30	
T-i-n-Târâbin	15	abandoned

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[648] These figures bring out the weakening of some centers to the advantage of others. Thus, a number of cultivators from Tarahouhaout (where the French post was formerly located) came to settle at Tamanrasset, and the group of little centers in the outskirts of Ăbalessa, Iglen, Tăfarit, etc., has absorbed the groups from other abandoned centers like Tifert, Essélésékin, Ilâman, Tarahananet, etc.

[241
312] Together these centers number about 400 gardens and 80 feggaguir.

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433 The wheat harvested is partly consumed by the cultivators and chiefly intended for export; it is exchanged at the Touat for dates. The total harvests in the Ahaggar corresponds to only one-fifth of the needs of its inhabitants, even in good years.

621
433 There are fifteen agricultural centers exploited in the Ahaggar: Tamanrasset, Tărhaouâhout, Tahifet, Tăzerouk, Ideles, Ăbalessa, Hirhafok, Iglen, I-n-Amegel, T-i-n-Ămenser, Amsel, Tigeneouin, Talan-Tedit, Mertoûtek, and Esselésékine.

[166] In addition there are twenty-two other centers which have been abandoned for some years as a result of dryness or lack of manpower: Ăttoklane, Ădenek, Ămrah, Ăbezou, Ăglil, Bloûmet, Déhine, Dar Mouli, Ennedid, Inneza!, Ilâman, In Ămertek, Ilafok, Outoul, Ouhet, Souaîka, T-i-n-Târabin, Touakin, Teberbert, Tarahananet, Tahart, and Joraf.

278 of trust. Every time they take a caravan down south, they purchase [439] many drugs, either for their personal use or to resell in their country or at In-Salah.

164 There are not many diseases in the Ahaggar. The country is relatively healthy because of its very dry climate /261/ and the bracing action of the sun, which at the same time destroys microbic germs. Moreover, this is very fortunate, for with the small amount of hygiene practiced by the Tuareg it would be impossible to fight disease. It may also be true that this absence of hygiene stems from the fact that the Tuareg have not had to see the necessity of it.

[165 731] The Ahaggar people die of old age or of war wounds. Of course, there are sometimes epidemics capable of doing damage, but they are rare because of the isolation of the camps. The great distances which separate one from the other are a natural defense against mass contagions. These epidemics always come through the medium [361] of the caravaneers or the people who return from the Sudan, where they have stayed among sedentary people. We may mention small-pox, very common in the Sudan, which sometimes works great ravages in the tribes. Typhus, spread by lice, may decimate a whole tribe in a few days, and it is not uncommon among the Tuareg. But these two diseases are the exception when they are reported in [751] the Ahaggar. When a man returning from the Sudan is stricken with one of them, his case is reported by messengers long before his arrival, and the sick man is systematically isolated.

753 The Tuareg under the circumstances recognize the state of [771] contagion, but they do not see the causes of disease. According to them, it is caused by the action of bad genii. As good Moslems, they pretend not to believe in these genii, but in reality most of the talismans they wear on their persons are intended to protect them from these. To obtain them, they go to the marabouts or to men [756] with a reputation for their knowledge of the occult sciences; these sorcerers are known as amekelléou.

291 /265/ Clothes, except for the gandurah made of cotton bands,
489 are made of material imported from Europe. This material, called
chêga, is heavily dyed with indigo, giving it a very dark gloss; it
[556] is the favorite material of Tuareg men and women, but it is replaced by ordinary cloth among less well-off people.

Veils are manufactured in English Nigeria, in the village of Koura near the large city of Kano. They are made by assembling
[435] a multitude of little cloth bands. They are very expensive and
can cost from three to five goats, depending on the quality. In
[177] Hausa language they bear the name toukourdi, which has been
[436] adopted by the Tuareg. For a long time they have served as exchange currency for commercial transactions.

291 It has been asked many times why the Tuareg were led to veil
174 their faces. Hygiene, which has often been mentioned, and the need to protect their respiratory tracts against sandstorms, are not sufficient reasons to explain this practice. There is something else, a /266/ very ancient enigmatic custom whose origin is lost in the night of time and which is kept up without their really knowing why. It is so deep rooted among the Tuareg, however, that they cannot conceive of a self-respecting man who can forego wearing the veil.

The headless men and acephalous people of ancient authors certainly owed their cognomen only to this very peculiar custom of hiding their faces, a custom which must have already existed in this remote epoch. One can only construct hypotheses on the origin of this veil.

We know through Ibn Khaldoun that the wearing of the veil was in general use among the peoples who inhabited the Atlantic coast and adjacent countries in the fourth century. This establishes that the custom is very ancient.

In the rock paintings from prehistoric or protohistoric times which have been discovered in the central Sahara in the last few years, we have noted the very peculiar method of representing the

156 291 The veil can express a fleeting sentiment. Thus, it is pulled down over the eyes before respectable people or women, while it is raised over the forehead, on the contrary, as a sign of familiarity. To laugh freely at a joke, a Tuareg will raise the lower part of his veil very high over his nose. When he is irritated, he will tighten it like a chin strap to mask his anger.

292 In the festive garb worn on the occasion of religious or family festivals, the veil is complicated with many turbans made of white muslin and bands of colored silk. The upper part receives a sort of frame which lets them arrange many cotton bands, interlacing them to form a kind of crest. The top part of the cranium is never covered, and the veil lets tufts of braided hair stick out. At marriages, it was formerly the custom to wear the takoumbout, a sort of big chéchia made of wool fortified with enormous flosses of cotton and covered with silvery appliqués. This headdress is on its way to ... disappearing completely, and there are no more than one or two in the whole Ahaggar today.

291 The Ihaggaren use two kinds of sandals: the broad cowhide sandal called irratimen with simple red leather straps crossing over the instep, and a sandal called imerkéden made of a number of scraps of goatskin sewed together, with a strap going around the heel and tying with a knot on the instep.

[184 556] The irratimen are particularly worn by well-to-do men and especially appreciated in sandy regions where their large carrying area keeps one from sinking too deep. /268/ This sandal, which [177 439] is manufactured by Hausa artisans from Agadez or Damergou, was borrowed from these peoples by the Tuareg. Its origin must not be attributed to the Tuareg.

[184 556] The true sandals of the Ahaggar people are the imerkéden, which they still wear and which the mountain people always prefer, since they are especially well adapted to walking on rocks. They are worn by the common people and by the Iklan who have no money to buy Sudanese sandals, while they all know how to make very comfortable imerkéden with a few old pieces of goatskin.

face to hide their features in front of strangers. During their moves, Ahaggar women use a big, broad-brimmed straw hat -- the téle -- to protect themselves from the sun. 291 [484]

/269/ They wear irratimen on their feet like the men, but more often they go barefoot. In the Sudan, during the rainy season, they replace the leather irratimen by very light wooden irratimen, which fulfill the same function there as wooden shoes do for us.

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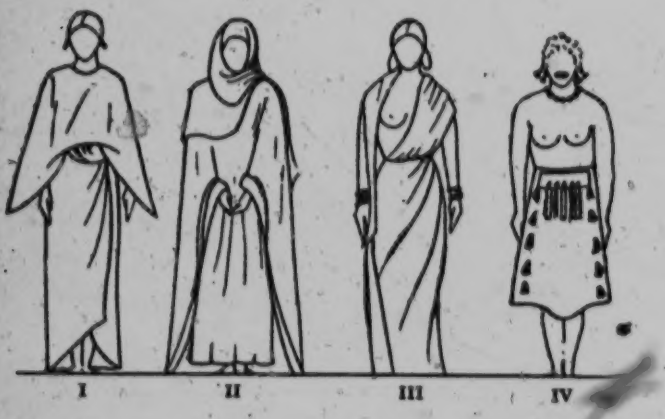


Fig. 40. Costume of Tuareg women.

1) Costume of Aïr Tuareg women, which includes a skirt and a little bolero.
2) Ahaggar Tuareg women's costume, including a skirt and a big gandurah reaching to the feet.
3) Sudanese Tuareg women's costume, including a skirt and a shawl around the shoulders.
4) Leather skirts for servant girls, in use in Ioullimmiden tribes.

In the Ahaggar and the Tassili, men and women wear a large white wool haik to wrap up the head and shoulders. During the cold period of winter they wrap up in a long woolen blanket (dokkali) made by the Arabs in Touat. The latter exchange them with the Ihaggaren for sheep. [439]

283 Spinning is done by all Tuareg women. They spin the hair of the
462 goat, the camel, and the wild sheep, making very solid cords and saddle girths.

286 Weaving is limited to the making of goat's-hair, or more rarely camel's-hair, bags. This is a very primitive technique which does not require any loom and which is, furthermore, in the process of disappearing from the Ahaggar, where only a few noblewomen still practice it. It is completely extinct in Sudanese tribes.

324 Stonework, a relic of Neolithism, was still carried on in the Ahaggar
438 a few years ago to make arm rings. Layers of granitoid schists were formerly worked
[415 at Aseksem and Terahart in the Tafedest. We also found
322] an ancient workshop south of Silet on the banks of the Tamanrasset wadi. Today all stone bracelets come from Air and a few from Hombori, where they are manufactured by Tuareg or Hausa artisans.

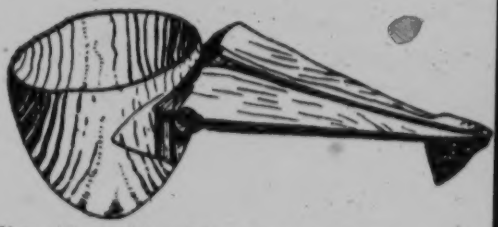


Fig. 48. Tabarekkat wooden ladle, also serving as a drinking vessel.

326 Metalworking is exclusively in the hands of the Enaden, who transform
[56] silver, copper, and iron. These materials, with the exception of iron,
[135] do not exist in a native, workable state in the Ahaggar. But although iron ore is common /279/ in some volcanic rocks of their country, the Tuareg do not have it exploited, for it is found in such small particles that it necessitates a disproportionate amount of forge work for the quantity likely to be recovered. Nevertheless, the memory of casting ore still remains among the Enaden. They use several forges at once, but do not know
[439] the blast furnace. The caravaneers coming from the north or from the Sudan used to bring metals.

177 At the present time silver comes from coins which are melted. For
326 years the Tuareg have had Maria Theresa dollars at their disposal; these

1: Lhote--148a E-5 (1929-1940) 1944 MS25 Tuareg MS25

Plate XIII

136

Long-haired Ahaggar goat. This species is localized in the mountain massifs of the Central Sahara (Ahaggar, Aïr, Adrar des Iforas, Tibesti).

Daman sheep, or Tuareg sheep, very widespread in the Sahelian steppe, is also rather common in the Ahaggar, but it is raised there only accessorily. It is a very sturdy beast, and many caravaneers import them from Adrar des Iforas by making them cross the Tanezrouft. It is characterized by its long legs and long tail.

[439]

660 The subtropical zone is Negro country. The Egyptians were well aware of that, and they drew much profit from this distant neighbor. Their Pharaohs did not hesitate to send military expeditions to bring back gold, ivory, ostrich plumes, and human livestock! The North African inhabitants were not ignorant of it either, and soon the riches of the Sudan were a fact known by all. Great caravan routes grooved the whole Sahara from north to south.

174 Their trail seems to have bypassed the Ahaggar. We do not
487 know the real reasons for this, but we can guess them. The mountain must have been avoided because of the obstacles it presented, its altitude and the rocky nature of the ground. The shortest trail which follows a north-south direction therefore cannot pass through the Ahaggar but can run along beside it. That is what happened. The reputation as brigands and highway robbers which the Tuareg enjoyed is perhaps not irrelevant to this turning away of the caravan trails either.

487 /311/ The great arteries which furrow the immediate approaches of the Ahaggar tie important oases together. They were able to
● [439] prosper because of the fact that these oases participate directly in the life of the Tuareg and because the Tuareg need them to ensure their food supplies.

The largest and most frequented trail is the one connecting the oases of the Touat and Tidikelt to the city of Agadez. For the Iḥaggaren this is the granary route: dates at the Tidikelt, millet in the Sudan. It takes 40 days to go from Akabli to Agadez, and the Ahaggar is halfway between. There is a mountain near the guelta /well? Ed./ of Outoul located 18 kilometers west of Tamanrasset which the Arabs call Ounous and which marks exactly half the way. This trail is, in fact, used by the Arabs, for whom the Sudan is an attraction. They gain very great benefits from these transactions, and everyone's dream is to be able to take a caravan to the Sudan, whence he hopes to return a rich man.

After leaving In-Salah the trail crosses the Ahaggar through the Arak gorges, reaches Lower Koudia at I-n-Ămegel, passes to

487 Tamanrasset, crosses the Tanezrouft through In Guezzam, and reaches the Sudanese zone either by the well of In Abangarit or by the well of Taket-n-koutat.

From Agadez the caravaneers usually go toward Zinder, Kano, or Sokoto.

Another trail, less frequented today but which formerly played a very important role, is the one connecting the oases of Ghadame and Ghat to Timbuktu or Gao. This is the route which the Sonrhai pilgrims used to take to go to Egypt. It was then much more a religious route than a trade route, for transactions between Fezzan and Timbuktu were very little developed and centered around the gold which came from Bambouk.

The trail, leaving Ghat crossed the plain of Ădmer, cut across Ădrar Ănahef, reached Aïtoklane, Ăbalessa, and Silet, and crossed the Tanezrouft either by Tin Rerhoh or T-i-m-missao to end up at Tin Zaouaten. Then, crossing Ădrar des Ifôras it arrived either at Gao by following the hollow of the Tilemsi, or at Timbuktu.

It is by this trail that the Arab traveler Ibn Batouta returned home from Gao. He left the trail after having crossed the Tanezrouft and entered the Ahnet to reach Touat.

There used to be another trail, Ghadames-Ghat-Timbuktu, /312/ which completely avoided the Ahaggar and went from Ghat to In-Salah by crossing Tassili-n-Ăjjer. This detour obviously made the route longer, but it was much safer for the caravaneers than the Ahaggar route, for it was entirely under the control of the Tassili Tuareg, who were on good terms with the people of the oases of Ghat and the Touat. It takes 25 days to go from Ghat to In-Salah by this itinerary, and one months from In-Salah to Gao.

The road from In-Salah to Gao is still very much frequented at the present time, not only by Arabs from the Touat, but also by [439] the Ahaggar Tuareg and the Tuareg from the Ădrar des Ifôras. This is the "sheep" trail, the one used by the caravaneers who are engaged in trading in livestock on the hoof and who supply meat to

487 the oases of the Tidikelt and Touat which have none. Thanks to
439 the wells of T-i-m-missao and In Ziza, the sheep succeed in crossing the Tanezrouft without too much suffering.

484 This trace movement is evidently engaged in only during
221 the coolest months of the year, that is, from October to April, and it demands great precautions from the caravaneers.

312 Here is a list of the wells, starting from Timetaouine (Adrar
484 des Iforas), where the animals are watered, as well as the number
487 of days of march between them, according to the information furnished us by El Bak el Fassi, the Amrar of the Kel Ahnet.

Timetaouine (well, watering place)		
I-n-Gezzal	1 day	Adrar des Iforas
Efenargh	1 "	
In Ouzzal	1 1/2 days	
Tirek	3 "	Tanezrouft
Ti-m-missao	2 "	
Tin Senatet	5 "	
In Torha	1/2 day	
Aleg'nenou	5 days	Ahnet
Tin Khalifa	2 "	
In Belret	1 day	
El Khenig	1 1/2 days	Immidir
In-Salah	3 "	Tidikelt

Or 26 1/2 days' march.

484 /313/ Depending on whether pasture is more or less abundant,
439 caravaneers suffer more or less losses in their flocks. Sometimes this loss is complete, sometimes it is none at all.

We saw a Kel Ahnet make the trip at the end of the month of April, a period which is not favorable, with 35 sheep and not have to kill more than one of them on the way.

484 This was observed by Duveyrier, Captain de Bonnemain, and
674 Bou Derba on the Ouargla-Ghat itinerary. We have witnessed similar actions ourselves, but the goods stored in this way belonged
[609] to some Ihaggaren, and no one would have dared lay a hand on them. The thing is less safe in the case of a stranger's property.

When a camel dies en route, the load that it was carrying is left on the spot and put under public protection. The caravaneer is always certain to find his property, even six or eight months later. In this regard, it is well to say that the Tuareg, raiders though they must be, are not thieves. When a theft has been committed in their /316/ country, the guilty party is generally a Negro, but rarely a Tuareg of the white race.

439 What were the products transported? Manufactured goods, for the most part, generally made in Europe. There were fabrics and silks which the Tuareg and the Sudanese eagerly sought, and there
[177 272] were knickknacks, unmounted sword blades, sugar, and coffee (tea only recently made its appearance in the Sahara).

All these goods were resold or exchanged for ten times their value. On the return trip the caravaneers brought back ostrich plumes, gold dust, ivory, and little Negro girls and boys bought as slaves and resold for very high prices in the cities of Algeria. Leather was also the object of an intensive traffic, as well as medications of plant or animal (ostrich fat) origin which were part of the Sudanese pharmacopoeia and much appreciated by the Arabs.

177 Today, except for gold and ivory, which have become rare
439 and whose traffic is in the hands of Europeans, and except for the sale of slaves, which has been forbidden since the French
[486] occupation, trade has remained the same. But the routes have become free and the Tuareg can no longer count on their former profits. There was one resort left, that of making themselves caravaneers in their turn and using their many camels in that way. This is what they have done.

438 [437] Sheep trading, which has grown greatly in these last few years, is largely carried on by barter. It is especially done by Arab caravaneers from the Touat who go to the Sudan with dates, tobacco, fabrics, and blankets, which they exchange not in the markets but in the camps. Tuareg from the Adrar des Iforas and Kounta Arabs also do the opposite and take their sheep to the Tidikelt and Touat.

434 435 In 1939 the sale price of sheep on the market at In-Salah was from 75 to 100 francs. The purchase price in the Sudan varied from 35 to 45 francs, but as we said, barter was most often the basis for all transactions.

And so for a camel that they received the Adrar Tuareg gave 120 sheep. One sheep alone was exchanged for 12 or 15 cubits of cloth or /317/ 10 guêcâa of dates. A dokkali, a large blanket from the Touat which the Tuareg hold in high esteem, was worth 10 sheep in the Sudan and 7 in the Adrar.

436 [177] The camel served as a basis of exchange. The Tuareg have never used money, although they did accept the Maria Theresa dollar which circulated in the Sudan and the Turkish livre which was widespread in Tripolitania. Sudanese tribes negotiated with [825] toukourdi, the band of material serving as a veil, and with kori (Cypraea moneta), a little seashell native to the Indian Ocean.

648 439 Since the French occupation we have seen a certain number of native merchants settle at Tamanrasset, the administrative capital of the Ahaggar. They are for the most part Mozabites and a few Arabs from Metlili who have constructed shops and have merchandise sent them by their correspondents in the Algerian Tell.

[305] This recent state of affairs tends to grow more and more extensive, and the postal agency at Tamanrasset records several million transactions every year.

439 These transactions are chiefly centered around tea, sugar, cloth, perfumes, hardware, carbide, and blankets from the Touat. They cause quite an appreciable movement of camels from which the Ihaggaren benefit, along with the Arabs from In-Salah who rent their camels to traders.

492 Transport. -- We need not repeat that without the camel the Sahara would be uninhabited today. Indeed, it plays a capital role in transport between oases; it is the mount used by warriors and people who are moving and the vehicle for baggage. People would not be able to do without its services the moment it is a question of crossing a hundred or so kilometers in a region not supplied with watering places.

The ass also plays a big role, but its use is more localized. [312] It is confined to the edges of the massif, where it is rare not to find water during a day's march. The ass really assures all internal transport -- that necessitated by moving camps, transport of water [565] and even of persons -- for although the Imochar never travel except on camels, the Imrad /318/ commonly make use of the ass, and their wives know no other mounts. Its role is even more appreciated because it saves camels which, in the Ahaggar, must be submitted /only/ to moderate labor. In addition, it is always handy, for it lives near the camps while camels are often several days' march away because of pasture needs.

Meharists have a special harness: light saddles which are placed on the animal's withers and which are designed to receive the different bags of salt and waterskins.

The Ahaggar Tuareg have several kinds of saddles: 1) the tarik, with the pommel in the shape of a cross and covered with [261] red leather; 2) the tamzak, shaped the same way, but much more [531] luxurious, with the outside of the pommel and the back decorated with little perforated metal plates and copper studs; 3) the tahiast, [531] a coarse saddle with a palette-shaped pommel, either in bare wood [322] or covered with leather decorated with geometric designs.

more chivalrous Imochar and a few rare Imrad try to oppose this, but in warlike escapades the Iklan and people with few morals are often more numerous than the others.

Abuses of women always called for vengeance, which the adversaries usually received before long. Acts of this kind were enough to raise up entire tribes against one another. And so, in the Sudan, the exactions of Marabout Abidine's people on the Kel Ádrar Tuareg, at the time of the murder of their aménokal Safikroum in 1912, made irreconcilable enemies of these two fractions.

At the beginning of the French occupation, when lieutenants Cottenest and Guilho-Lohan carried out their reconnaissance missions in the Ahaggar, they found women abandoned in the camps by their husbands. The good care which was taken of them made it easier to make peaceful contact later with the Ihaggaren.

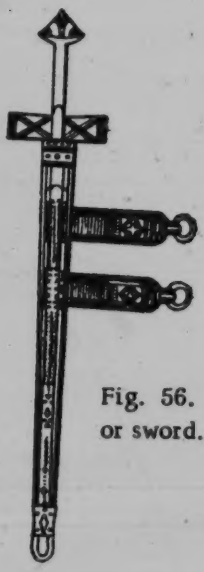


Fig. 56. The tacouba, or sword.

Tuareg weapons include iron lances, javelins with wooden staff, swords, daggers, and a buckler.

/325/ Even before the French occupation the Tuareg knew how to use firearms and possessed a certain number of guns. They were for the most part projectile weapons or archaic models of the

Lefaucheux type. But their prices were high for Tuareg pocket-books, and it was difficult to procure powder and bullets, which made firearms uncommon and often the prerogative of the chiefs.

Tuareg weapons vary according to the circumstances. The Imochar carries the arms he likes: they include the sword (tacouba), which is the weapon par excellence of the nobles; the iron lance (allar') carried by nobles and vassals; javelins with iron shoulder and point and wooden staff (tarda), which are set aside for vassals and slaves; and the forearm dagger (télak) provided with a leather ring so that it may be hung from the wrist. In the Sudan slaves also carry wooden clubs (tabouri), heavy branches with a knot at one end.

Fig. 57. Old type arm dagger.

The Tuareg have only one defensive weapon, the buckler (ahrer) which is made of oryx antelope skin. It was generally the prerogative of the nobles, and only they had the right to carry it. It recalls the coat of arms by its shape and the ideology which surrounds it; the decorative motifs which it bears have a magic character.

The Tuareg are adroit fencers, fighting hand /326/ to hand with their swords while protecting themselves with their bucklers which cover their bodies and which they handle with a great deal of dexterity in spite of the volume and weight. The sword cuts

232 the ridge of the nose, and then tying a very thin leather thong very tightly around the base of each fold much as a string is tied around the opening of a toy balloon to keep the air in. After a while the thongs are cut away and three little round knobs, about the size of the end of your index finger, remain for the rest of the camel's life as a kind of hallmark of outstanding quality (fig. 26, *a*). Riding camels are very carefully and patiently trained from the age of about 2 years on, and the males are castrated when about 5 years old.

Trading. We have now seen that pastoralism
●439 is the central column and garden rent a corner post of Tuareg economy in the Ahaggar. Trade is the second corner post, and salt is, as we have seen, the chief article of export.
[317] In April or May some of the Ahaggar Tuareg send their slaves to the salt mines of the Amadror for two or three weeks. In July they go south with their cargoes of salt, through the
[487] rich pastures of the Tamesna region where they rest their animals for a while or exchange them for fresh ones, and then on to the commercial centers of the country just north of the Nigerian frontier. Here trading begins in earnest, late in October as a rule, and endless discussions and bargaining go on for a couple of months or so. Salt, and also camels, donkeys, and dates obtained from the North, are exchanged chiefly for millet but also for a variety of manufactured articles such as cotton cloth and clothing, leather goods, sandals, saddles and bridles, wooden household utensils and tools and weapons of iron and steel. In January the Ahaggar Tuareg turn north again, pause once more for a while in the Tamesna, and finally reach their homes in March or early April.

Camels, hairy sheep, goats, donkeys and congealed melted butter used to be traded in the oases of the Tidikelt and the Touat mainly for dates, and also for cotton cloth, thin woolen blankets from the Gourara, tea, sugar and tobacco. Caravans engaged in this trade used to leave the Ahaggar in January or early February and return in April. Over the last 30 years or so, however, this commercial current has been reduced to a mere trickle by middlemen with trucks who have gradually taken over delivery of the goods that caravans used to fetch from the North. The trade still exists in a sense, but it has become indirect

439 and its focus is now strictly local as far as the Tuareg are concerned.

Salt and dates were once traded in the Niger Bend country for camels, sheep, millet and rice, and camels, sheep and goatskins used to be traded to Ghadamès in exchange for swords, richly embroidered cloaks, dates, tea and sugar. Ghadamès is still an important center for the production of metal utensils and occasionally weapons.

439 **Protection.** Aside from their own trading ac-
486 tivities, the Tuareg used to control caravan trade in general over a very wide area, and this was the third corner post of their economy. Barth (1857, vol. 1, p. 238), writing a century ago, tells us that in his day the Amenokal of the Ahaggar, Guémama, controlled all trade routes between Mourzouk and Timbuctoo, and it seems likely that this situation already dated back over a considerable period. The Ahaggar Tuareg used to control all trade in the southwestern Sahara as far west as Ouadane and southward into northern Nigeria at least as early as the beginning of the 15th century, but their grip on much of this area, and notably on the salt trade of the southwestern Desert, was broken by the Moroccans at the end of the 16th century, and the Tuareg never seem to have extended it again much beyond Aoulef in the Northwest or southwestward beyond Timbuctoo.

The mechanism of control was based on the furnishing of guides and armed escorts to caravans passing through areas under Tuareg domination, and for these services there was a fairly uniform customary scale of charges based on the estimated value of a caravan's cargo and the reputed wealth of the owners. Caravan leaders sometimes failed to agree on the figure to be paid and proceeded on their own, while big caravans occasionally brought guides and guards along with them and small ones now and then tried to slip through unobserved. The Tuareg, however, succeeded in making such expedients unprofitable in most cases by themselves raiding reluctant customers along the road. Thus a highly profitable protection racket was maintained for several centuries before the period of European domination.

721 **Raiding.** The fourth economic corner post of the Ahaggar Tuareg was raiding pure and

351 and are extended out in front to form a sheltered enclosure which is usually semicircular with the entrance opening in the middle. The little forecourt and the ground inside the tent as well are covered with clean sand or very fine gravel from the bed of a nearby stream. Tuareg camps are always very tidy and astonishingly clean.

562 Both in the forecourt and in the tent itself
342 the men's place is on the right as you enter and the women's and children's on the left, which is the reverse of the arrangement customary among Arabs. It has often been said that the men's place is on the East, but this is simply because tents are almost always pitched facing south.

352 Household furniture and effects include
[439] sheepskins, or rugs obtained from the North by trade, leather bags of food and personal belongings, saddles, bridles and weapons,
[415] wooden bowls, funnels and spoons and maybe an earthenware cooking pot or two, a wooden
[412] mortar and pestle or perhaps two sets of different sizes, and a stone quern which may be either of the Neolithic saddle type or the small rotary model of the Roman Legions. Arms and food are stored in the men's half of the tent and equipment connected with food preparation in the women's half. A guerba full of water is hung from two long stakes just outside the forecourt. A brush
[343] windbreak built nearby shelters the outdoor kitchen, and another windbreak, some 50 to 100 yards away, shelters the family slaves.

Sometimes in the hottest months, and particularly when a camp remains stationary for a considerable length of time as it does in periods so dry that it is dangerous to move far from a permanent water supply, the tents may be stowed away and zeribas set up in their place. We recall that these are cubical or cylindrical structures made of reeds, long grass or palm fronds laid over a wooden framework measuring roughly 10 to 15 feet across and 8 to 10 feet high (fig. 37, *a*). The Amenokal's camp was installed in zeribas when the writer visited it in November, 1955, near the end of an unusually long period of drought.

361 Camps are always pitched in an inconspicuous spot and always on high ground except on very rare occasions when the sky is cloud-

291 one, of dark indigo blue cotton cloth this time, is customarily worn over it. On gala occasions some of the Tuareg wear a third gandoura, made of very narrow vertical strips of Sudanese cotton cloth dyed a lurid pinkish violet or of alternate strips of violet and white or dark blue, often with two large spiral patterns embroidered in coarse white thread, one over the left breast and the other on the back between the shoulders. This third type of gandoura has gone almost completely out of use within the last few years, but, like the white tie and tails of our own formal dress, it is still worn occasionally and is considered very elegant. A Tuareg gandoura should be wide enough so that when the upper corners hang down freely they cover the hands, but they are usually rolled up over the forearms so as to leave the hands free and sometimes are folded over the shoulders, thus freeing the whole arm.

A woolen outer garment is occasionally worn in cold weather. Lightweight blankets from the Gourara and the Touat used to be worn like giant shawls, but these have been replaced to a great extent by the "burnous" (Arabic = *bernoos*) of the Arabs, a long hooded cloak made of wool or of camel's hair mixed with wool.

The Tuareg have two types of footgear. The older type, a sandal with the end folded back over the toes, is held in place by a narrow strip of leather which passes around the heel below the level of the ankle, and is attached to the sole directly between the great and second toes and indirectly by a loop on either side of the foot halfway between the instep and the heel. The second type, [439] usually imported from the Sudan, is a large flat sandal which extends out about an inch beyond the foot in all directions. It is held in place by a V-shaped pair of broad strips of leather with the arms of the V attached directly to the sole on either side of the foot and the point attached to a thin roll of leather which passes between the great and second toes. The older type is rarely seen today, but still survives in some of the more mountainous regions.

And so we come at last to the mysterious "teguelmoust," the men's veil that has done so much to make the Tuareg so famous. The

291 Tuareg. It is all very puzzling and mysterious indeed.

Tuareg women wear either a short cotton skirt that reaches just below the knees or a pair of baggy trousers, like those of the men but shorter. Like the men they usually wear a white gandoura with a blue one over it, but the under one at least is sewed farther up the sides leaving open arm slits only 1½ to 2 feet long. The costume is topped off with a shawl and a head scarf of indigo blue cotton cloth, the first measuring roughly 9 feet by 6 and the second about 4 by 2 feet as a rule. Lightweight woolen shawls, measuring as much as 10 feet by 6½ and white or darkish pink in color, used to be worn on festive occasions but have practically disappeared in recent years. Lhote (1955, p. 107) says that Tuareg women sometimes wrap goatskins around their shoulders in wintertime. Straw hats with very high conical crowns and enormously wide, floppy brims, made of narrow interwoven strips of palm fronds, were always worn in summertime by women of rank, especially when on a journey, but these too have almost completely disappeared. We have already seen that Tuareg women never wear a veil, which is just as well since many of them are extremely good-looking, but they often drape a fold of the head shawl loosely across the nose and mouth when sitting out in the open or riding on the trail, simply as a matter of physical protection. Young unmarried Tuareg women and girls are inclined to be overcome with giggles when strange foreigners arrive in the camp, and then they hide their faces with a corner of the shawl or whatever piece of clothing is most handy, just as little girls do everywhere in the world.

302 Tuareg women sometimes plaster their foreheads and cheeks with mudpacks of red or yellow ocher, and smear their mouths with indigo and the region of the eyes with black pigment made of powdered antimony or charcoal mixed with grease. This lurid make-up [751] gives fairly good protection against sun and wind, and the Tuareg consider it very beautiful as well although to our eyes it makes the wearer look absolutely frightful. Men also use black pigment around the eye openings, 291 especially on gala occasions.

●439 The reader will have noticed that the

291 Tuareg attach considerable importance to
[439] indigo blue cotton cloth, a product which they get from the Sudan. This material is commonly known as "chegga" (pronounced *shegga*), and the most archaic and highly prized variety is made of a multitude of long strips about an inch wide sewn tightly together. The cloth itself, of very ordinary quality, is so heavily impregnated with crude indigo as to be literally stiff with it. A brand new piece looks black when seen at a distance or in a poor light, but in bright sunlight it is a dark purplish blue with a coppery sheen like that of cheap carbon paper; and the indigo dye comes off on your fingers at the slightest touch, just as the ink on carbon paper does but much more so.

302 Obviously, anyone who wears clothes made of such material is soon stained with indigo from head to foot, and the Tuareg even rub it into their skins on purpose. Women often smear it on their foreheads, cheeks and temples and around their mouths by way of make-up. The
[751] Tuareg claim that indigo not only protects human skin from the direct effects of sun and wind but also lubricates it and so prevents cracking, and they are quite right, at least up
[515] to a point. If the Tuareg wash themselves only very rarely, it is partly to preserve the accumulated protective coating of indigo, the humble practical value of which has been
[554] gradually enhanced by an ever-increasing value of prestige that has risen in proportion to the rising cost of indigo-dyed cloth. A dirty looking, bluish skin is admired by the Tuareg just as much as a rich golden tan is admired in midwinter by the business men and women of New England and New York.

515 It should be noted that in the Sahara Desert proper one can go unwashed for long periods without either feeling or looking noticeably dirty. The air is so dry that perspiration usually evaporates instantly upon reaching the surface of the skin, and so it is unusual for anyone to sweat visibly. Most of the nomadic
[147] natives are in excellent physical condition in that they are very lean and wiry, and so they sweat relatively little in any case. Thus it is extremely rare to meet one who has any perceptible body odor at all, regardless of whether he looks clean or not. White foreigners are seldom in anywhere near as good physi-

3: Holiday J-5 (ca. 1955) 1956 MS25 Tuareg MS25
Hoggar

533 [177] For example, a rough division can be made straight away between the songs that seem to suggest a negro origin and those whose flavour is indisputably, let us say Moorish, rather than Arabic. First of all it would be as well to deal with the few instruments used by the Tuareg in relation to the type of song they accompany; for, here again, the same division occurs.

534 The nearest that the Tuareg possess to an instrument capable of producing a melodic line is the "amzhad" (or "imzad"). The plural of the word, "imzaden" meaning "hair"). This is a single stringed instrument of the lute variety comprising a sound box usually made from a gourd and covered with stretched membrane, a rough neck of stick being fixed across the diameter and projecting about 12 inches. The string is passed over a rudimentary bridge made of two short pieces of stick lashed together so as to form a shallow "V" and tied to the end of the curved neck. The pitch of the string is determined first of all by a sliding loop further down the neck and controlled during performance by the musician's left hand. A bow is used and it is from this that the instrument derives its name, since the bowstring is made from the hair of the women. The instrument is pitched on the open string usually at an approximate middle "C", though this can vary since an "E" above middle "C" frequently becomes the tonic note. Its range is roughly an octave and a third, accompaniments often being played in the top part of the register. Intervals approximating to perfect intervals predominate during performance.

Two kinds of percussion are used by the Tuareg, not counting group handclapping that features with many of the songs: a tom-tom with a wooden shell and single head, and a more hybrid contraption involving a gourd and a bowl of water. The tom-tom, which is played with the flat of the hand, has a head of stretched gazelle skin fastened by a cord made of goat hair and can be tuned by damping with water. Dry, the tom-tom produces a "treble" note, and wet, a bass one. The shape of the shell resembles an eggcup, and although tom-toms vary in size they are roughly a foot in diameter and eighteen [434] inches high. The wood comes from the French Sudan, but the tom-tom is to be found wherever the Tuareg go. The gourd and bowl of water suggest that it is a recent innovation, since bowls are not readily obtainable in the Sahara except through foreign manufacture and trade, i.e., foreign to the Tuareg. Indeed, the bowl largely favoured is an ordinary enamelled affair about six inches deep and perhaps eighteen inches across such as is found in the kitchen of any European home. Filled with water and this surface struck rhythmically with an inverted half gourd it produces a deep, damped note comparable to a well-tuned bass drum.

Wind instruments are unknown among the Tuareg and the "amzhad" and the two percussion instruments mentioned above are the only musical devices used. Certain distinctions govern the use of these three instruments that have their roots in tradition. 462 All of these are played by the women who, particularly with the "amzhad" display con- 533 siderable virtuosity: for a Targui to play an instrument would be *infra dig*. Consequently, much of the propagation of folk-culture is in the hands of the women, though the men- [177] folk do not consider the heroic beneath their dignity. However, the war songs, recounting the deeds of great warriors, are practically extinct since the Tuareg have passed from being a fighting force, levying protective tolls upon the caravans, to become a quiet, almost passive people, anxious for survival in the face of encroaching modern civilisation that has already dissipated the often considerable wealth amassed before the French gained control in the Sahara.

533 [177] The music of the Tuareg falls into the two types mentioned earlier: songs that seem to owe their origin to negro influences, and those that have certain Moorish characteristics. It is curious to note that none of the songs of the women feature the use of mordents or shakes, whereas those of the men invariably do so. Secondly, percussion other than handclapping is never used to accompany the men, while the "amzhad" is never used to accompany the songs of the women. When the "amzhad" is used, perhaps because

claim that this blue tint is excellent for the health. As in the Tidikelt, a white garment is not fit to wear until it has been sufficiently tinted blue by contact with "chegga."

The Tuareg value our medicines, "asafar" ⵓⵙⴼⴰⵔ plural "isefran" ⵉⵙⴼⵔⴰⵏ, and believe in their efficacy. This is also due to the fact that they are given to them free, for under no circumstances does the Tuareg like to loosen his purse strings, and he never ceases to beg for anything he sees that he hopes to get for nothing.

However this may be, it is good to note that he comes very willingly to be treated by us. A French doctor would certainly be very well received by the Tuareg.

The most usual diseases among them are fever, "tazzaq" ⵜⴰⵣⵣⴰⵇ, gonorrhea, "talaoaɣt;" rheumatism, "tessemdhi" ⵜⵙⵙⵎⴷⵉ and headaches, "tekmou-n-ir'ef" ⵜⴽⵎⵓⵏⵉⵔⵄⴼ.

Chapter XVII

Negroes and Negresses

There is no Tuareg tent which has not at least its negro and negress. The frequent raids that the Ahaggar made in the Niger and in the Sudan procured them all the slaves they have.

They devoted themselves greatly to the Negro trade, which brought them fine profits since they had only to take the negroes without expense.

The conquest of the Sudan and the Saharan Oases gave them a terrible blow from that standpoint. Besides, with the progressive pacification of their territory and that of the neighboring tribes subject to them, they would soon have to renounce all hope of new raids, and one may say that the Negro trade, if not entirely destroyed, will at least be considerably diminished.

Finally, they wear around their necks thick cords of red or green silk or braided wool, which they call "el mejdoud" and which are used to suspend a Koran, a book dealing with cabalistic matter, or amulets. 291 789

Amulets (everyone has some) are worn on the back or on the chest. They are enclosed in a leather or metal sheath. I saw one Tuareg who had some twenty that he wore, all gathered together, on his chest. 789

Finally, they are shod with large flat sandals from the Aïr, "ir'atimen" ⵉⵔⴰⵜⵉⵎⵏ , or with leather sandals made on the spot and called "imerkaden" ⵉⵎⵔⴽⴰⴷⵏ . 291 [439]

Let us not forget the arm bracelet "ahbedj" ⴰⵀⴱⴷⵊ , plural "ihebdjan" ⵉⵀⴱⴷⵊⵏ , like a snake, which, they say, gives strength to the biceps when one strikes a blow. 301 789

At rather important meetings and palavers, the richest come dressed in burnooses bought at Ghat and decorated on the shoulders with attractive silver embroidery. Sometimes it also happens that if the burnoose has no embroidery, the owner prefers to wear it inside out, so as to display the yellow and green silk lining which decorates the edge and lower corner of the burnoose. Where will vanity stop? 292 [556]

The burnoose is not put on, but just put over the shoulders.

Some poor Tuareg are dressed in clothes of tanned leather. 291 556

/38/

The woman's dress consists chiefly of:

A sort of skirt, called "asedjebes"

A shirt with sleeves, "takamisit"

A woolen haïk, "abrour'"

A veil placed on her head, "ikerhi"

According to her means, she wears the following jewelry: 301 556

Silver bracelets, "ihebdjan-oui-n-azerouf"

Glass bracelets, "tahouka, " plural "tahoukaouin"

Glass-bead bracelets, "denguela, " plural "denguelaten"

Blacelets of the horns of goats or gazelles, made in two halves which are encased one in the other with copper and which are called "iouakane"

They use camel hair to make rope. They are fond of camel meat, and it is they who supply the markets of the Tidikelt with it. 237 283 262 439

There are very few cattle in the Ahaggar, barely thirty, and almost all these belong to Si Mokhammed ag Otsmane, of Tazerouk. They are used to draw water from the wells into the ar'erems. The pasture is scanty, and besides the cattle easily wear out their hooves on the rocks and stones. 233 492 [312]

In the Koudia, because of the cold which prevails there and the high altitude, there are many small turrets of dry stones, /65/ empty inside, in which the Tuareg confine lambs and kids at night to shelter them from the cold. 233 343

The Ahaggar do not have a large number of meharis, and they do not like to sell them, especially the good ones. Among themselves, to set the value of a mehari, they say, "Such a mehari is worth two, three, or four camels." All their meharis are trained to start at a gallop. The Tuareg has great patience with the training of his mehari and never mistreats it. He confines himself to persuading it by voice and foot, and it is perhaps for this reason that the Tuareg mehari is much more silent than the Arab mehari. 233 [435]

The foundation of the pastures of the Ahaggar is aremmas (Atriplex halimus, Salsolaceae). This plant is quite laxative. So when the year is bad and drought prevails, the Ahaggar are found emigrating toward the Adhar'. There are fine pastures of "had" (Cornulaca monacantha, Salsolaceae) in the south of Tin R'arhou, but there is no water. Moussa ag Amastane /66/ intends to have wells dug there and has requested our help and advice for this purpose. 137 233 [312 648]

As a rule the Tuareg let their camels out to pasture without herders, and they find them again at the well or by tracking, unless they entrust the herding to children or negroes. 233

/67/ A young camel is called "abal" without designating its age. A camel in general is called "amadjour," plural "imoudjar," or else "amiss," plural "imnass." A female is 192 233

called "talemt," plural "tillemine"; one that has calved within a year is "t-n-aouara"; one that is heavy with calf is "timettirout." A stud camel is called "amali," plural "imoulal." [192] 233

The wool-bearing sheep does not exist in the Ahaggar. There is only the hairy sheep which the Tuareg call "ekrer," plural "ikraren." This sheep is covered with a pelt of long, rough hair, and its legs are longer than those of wool-bearing sheep. This is why it got the name ovis longipes, or sheep with long legs. The meat of this sheep is good and does not have the smell characteristic of the wool-bearing sheep of Algeria.

On the oases of the Tidikelt and Touat, only this kind of sheep is found.

As to the goats, they are of two kinds: those with long hair and those with short hair. They have no characteristics which distinguish them noticeably from the goats of Algeria.

Chapter X

Trade. Caravans. Market Prices

The Ahaggar Tuareg have trade relations with: 1. the Saharan Oases (Tidikelt and Touat) for dates, "chegga" (blue cotton), "malti" and "mahmoudi" (white cotton), "chach" (white muslin), haïks, smoking tobacco, "taba," and snuff, "chemma," tea, and sugar. /68/ 439

They bring in male and female camels, hairy sheep, goats, donkeys, melted butter, and sometimes products that they have brought back from the Aïr.

2. Aïr and Damergou. Having no industry, they buy all manufactured goods from the Aïr. Thus, by means of barter (aside from bechna) they acquire arms: spears, daggers, sabers,

and shields; mehari saddles, saddlebags in all shapes of carved 439 ●
and colored leather, little leather boxes, glossy blue cloth, "ilechchane," gandurahs with sleeves, black cloth ("kehal") for veils, and finally "tikamarine," or dry cheeses. In the Aïr saddles for horses are made, shaped like Mexican saddles and having round stirrups of heavy copper covered with leopard-skin (the Amenokal Moussa ag Amastane has one).

To the Aïr, and sometimes to the Damergou, they bring salt taken from the sebka of Amadr'or, "chegga bought in the Tidikelt, camels, donkeys, dates bought in the Tidikelt, "teheredjlé" (Hartemisia herbalba, Composeae), etc.

[133]

Crater of the
Ouksem Volcano

3. Adhar and Niger, from which they get bechna, rice, sheep, and camels. They bring in salt, "chegga," and dates.

4. Ghat and Ghadames, but seldom. There they buy extra fine burnooses, sabers, sugar, tea, and "chegga." They bring in camels, waterskins, camel-hair ropes, and sheep. /69/

In addition, the people of the Tidikelt, especially the Ahl-Azzi, come to buy wheat and barley on the spot, which they gather into their "ar'erems."

The Tuareg of the Ahaggar would like very much to have, 439
like the Azdjer, the protection of the big caravans which go 484
from Tripoli to Ghat, to the Aïr, and to the Sudan. Thus they 427
would hire out their camels to traders, and this would be an important source of revenue for them (the Aï-Loaïn already hire out their camels toGhat traders). They would very much like to see this current turned toward the Ahaggar, and we have the greatest interest in urging them on this course.

All the transactions that they make take place by means of barter. The most important profits that they realize result from barter carried on in the Aïr and the Niger with the salt, "chegga," and dates that they take there. 437 439

Market Prices in the Ahaggar

There are no set prices for meharis, or male or female camels. However, the prices for young camels are fixed and known. Thus: 435

A four-year-old camel, "aqnefoud," is worth 100 francs
" three-year-old " , "aleggues," " " 75 "
" two-year-old " , "aledjoudh," " " 50 "

For sheep and goats, the price basis is the goat, which is worth 3 mitqals, or 7.50 francs. A ewe is worth a goat and a half, or 11.25 francs, and a ram, two goats, or 15 francs.

A load of dates sells in the Ahaggar for 75 francs.

Barley sells for 1 franc per "guessaâ" or 60 francs for a load of 60 "guessaâs." Wheat is 1.25 francs per "guessaâ," or 75 francs per load.

"Chegga" sells for 1.25 per meter. /70/

Melted butter is sold at 7 "mouddas" (a small wooden measure) for a goat, or 7.50 francs.

Market Prices in the Ahnet

One female camel, 56 to 60 mitqals (125 to 150 francs)
One load of dates, 30 mitqals (75 francs)
One sheep, 7.50 francs
One goat, 10 francs
Melted butter, 7 "mouddas" for 7.50 francs
One donkey, 25 francs

4: Benhazera--62 G-5(1905) 1908 MS25 Tuareg MS25
Hoggar

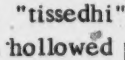
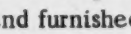
Chapter XI

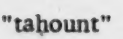
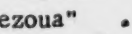
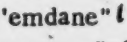
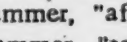
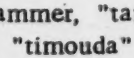
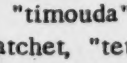
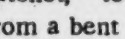
Industry. Blacksmiths

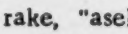
There is no industry in the Ahaggar. They do not exist. 433
One cannot describe as an industry the minor arms repair that 326
a few blacksmiths make, nor the little wooden implements that the Tuareg make for their personal use.

We have seen above that the Ahaggar Tuareg buy all 326
their arms in the Aïr. They are not made at home. [439]

In the Ahnet I watched a blacksmith, Eg Ahnet, work. He was mending spears, sabers, and daggers, and he told me that he also made some jewelry when they were ordered from him. He asked for preserve cans to make his settings. His tools were quite primitive. He had:

A bellows, "tissedhi"  , made of two iron tubes set into a hollowed piece of wood onto which were fitted two waterskins open at the ends. These openings were held by rings and furnished with handles. The iron tubes blew the air into a clay furnace, "anefif"  , set before the fire. /72/

An anvil, "tahount" 
Files, "azezoua" 
Pliers, "ir'emdane" 
A large hammer, "afadhis" 
A small hammer, "tafadhist" 
Tin-snips, "timouda" 
A small hatchet, "tetaout"  , which he had made from a bent branch.

Finally, a rake, "asekredh"  , which he hafted with two wooden handles each time he wished to use it.

He also made locks and keys of copper. He complained [414]
of hard times and how the craft no longer prospered. Where [178]
was the age of the great raids, the expeditions from which arms were brought back to him to repair and sharpen! Where are we going? Times have really changed!

5: Nicolaisen E-4, 5 (1951-1955) 1959
MS25 Tuareg MS25
Ahaggar

for the manufacture of a few insignificant objects. To most Ahaggar Tuareg the camels have little direct economic value. But in raids of the past camels were very valuable riding animals, and they were then as now extremely important for caravan trading, which provides the Tuareg with most of their vegetable food.

The economic role of goat-breeding is very different. Goat-products play a very comprehensive part in Tuareg nourishment. Goat's milk is not only drunk, but is also made into butter and cheese which can easily be stored. Goat's meat is superior to camel's meat, and one goat does not contain more meat than can be eaten quickly by the members of a normal household. Furthermore goats are very important in Tuareg craft; tents, waterbags, and containers for different sorts of liquid and solid food are made predominantly from their skin, which was formerly also employed for whole garments. Goat's hair is extremely useful as material for ropes with which domestic animals are tethered, camel-loads are fastened, and the like.

Pastoral Tuareg could not survive in Ahaggar without goats. They might be able to subsist without camels, which can be replaced by donkeys as beasts of burden. But camels make life much easier to the Ahaggar Tuareg, who nowadays as in the past base their economy mainly on camels and goats. I think it is fairly correct to say that most Ahaggar Tuareg get their milk-food from goats, their vegetable food from caravan trading by camels.

Formerly the true vassal Tuareg of Ahaggar were not allowed to possess camels, which were owned exclusively by noble Tuareg. Foucauld says that 100–150 years ago the vassals had no camels, but he does not mention his source of information (Foucauld 1951–52, II, p. 534). But it is confirmed by many Tuareg that throughout the 19th century the vassals had not many camels, while they were rich in goats of which the noble Tuareg had very few. Goat products were given to noble Tuareg by vassals. As mentioned, goats and butter form part of the tiouse payments to the Amenokal, and were also an important part of the tiouse paid to other noble Tuareg of the Kel Rela. But the noble Tuareg who were masters of the small temažlait-units within the drum-group could apparently claim practically whatever they wanted from their vassals. The noble Tuareg, Duveyrier says, in reality had all rights over their vassals' property. But they were themselves interested in having rich vassals, and would not discourage them by claiming too much. When in need of riding camels the noble Tuareg could freely take animals from their vassals. The vassals had also an obligation to feed their noble lords, who at certain times would camp among them (Duveyrier 1864, p. 334ff.). This is also stated by Benhazera, but he claims that the vassals would not necessarily give everything demanded by noble Tuareg (Benhazera 1908, p. 54). The noble Tuareg of to-day have not ceased to claim food products and the like from their vassals. Poor noble Tuareg frequently ask gifts from their vassals, and there are even noble Tuareg who temporarily camp close to rich vassals from whom they acquire part of their food. Vassals may also lend their she-camels to noble Tuareg, who will return the animals when milk-yielding stops, and this is considered an old privilege of the nobility.

● 439 /63 cont./ Tuareg society, nomadic through geographical necessity and warlike by need, in order to feed the soldier nobles, the herdsmen imrads, and the domestic slaves, had to find a way to balance the risks attendant to the cultivation of the valleys of the Ahaggar by the harratin. The method found is, on the one hand, to exchange salt extracted from the Amadror for millet from the Sudan, and, on the other hand, to exchange wheat harvested in the Ahaggar for dates from the Tidikelt. This double movement constitutes the essence of the Tuareg economy; it brings to light:

1) Barter, still used as system of exchange.

2) The curious fact that the Targui feeds himself with foods which are not produced in the Ahaggar, dates and millet.

3) The fact that if the Targui needs Negro domestics and harratin cultivators, he is equally necessary to them in order for them to live. It is estimated that millet makes up two-thirds of /64/ the food of the population of the Ahaggar, the other third consisting of dates.

4) The existence, as a result of this organization, of a large camel herd to maintain the caravans.

Barter

317 439 This country, disinherited by nature, nevertheless gives its inhabitants one rich resource: salt. This salt, which is lacking in the Sudan, lies in great quantities on the Amadror plain, an interior basin situated to the northeast of the Ahaggar, bounded to the north by the Tassili des Adjjer, to the west by the Edjéré, and to the east by the hills which separate it from the basin of the Taffassasset.

The Amadror region, an old dried-up sebkha, is particularly desertlike. The salt is at the surface, so it is mined in the open air, in blocks weighing 50 or 60 kilograms; the small pieces cut from the blocks are put in sacks and carried off. It is evident that such a barren, desolate, frightful,

317 /64 cont./ waterless country would inspire legends; stories
439 are told of genii which haunt the salt mines all night long, and this invisible and baneful world may be heard thumping the ground and ceaselessly breaking the salt blocks with diabolical energy. When day returns, the work site seems to be in the same state as on the evening before, and nothing seems to have happened during the night, ...and yet, "They were there." Some Tuareg claim to have seen horse tracks stamped in the ground and to have ascertained the existence of equipment for extracting salt predating those now in use -- which would tend to prove the antiquity of this mining work.

The desert contains other saltworks which supply the Sudan; to the west, Idjil and above all Taoudéni are the best known; to the east are the mines of Bilma and the Acedjerad, but among the latter the Amadror salt is the most esteemed at the markets of the savanna.

Toward the month of April or May, the Tuareg send their /65/ Negro domestics to extract the salt. Caravans of about a hundred camels advance by small stages toward the salt mines, following well-beaten tracks which lead by the wells of Dehine and In-Tarass (the latter is 40 kilometers from the salt).

The work is done as rapidly as possible, for the sojourn in those parts has nothing pleasant about it because of the heat, the lack of water and wood, and the nocturnal presence of the Kel es Souf (genii). The method of extraction is clearly disorderly, but what does it matter, there is so much salt!
[492] The blocks are hewn with a kind of ax; two blocks, after having been tied with a chebka (coarse net), make a load for a camel. The small pieces are put in sacks (made from palm fibers) in 50-kilogram loads. In ten days, two men can load 50 camels, or about three metric tons of salt.

Then comes the return to the camps in the Ahaggar. Until time to be sent to the Sudan, the salt is stored near the tents or the villages. The custom is for the Negro returning

317 /65 cont./ from the Amadror to offer bits of salt to the camps
439 he encounters on his way; in exchange he is given lodging and entertained.

439 When the moment comes to leave for the Sudan, at the end of June, a Targui takes command of the caravan, in which every fifth camel carries salt. Toward the end of July the caravan arrives in the Tamesna, the region of In-Abangarit, where the Ahaggar camels live permanently. This is still almost home, it is good to rest here, and the camels, which have just covered about 1,000 kilometers, take advantage of the abundant pastures of the Sahel region. Toward the month of September or the beginning of October, the caravan gets under way again with the camels rested or exchanged for fresh ones. The Damergou region, whose largest center is Tahoua, is reached toward the end of October. This region is well known to the Kel Ahaggar. Their customers are there. Then the bartering begins; it is a long operation involving protracted discussions and laborious bargaining, during which /66/ the Tuareg exchange the salt for millet at a rate varying from year to year (the rate depends on the size of the millet harvest and how much salt is brought from elsewhere than the Ahaggar). Consignments of marine salt arriving by river routes threaten to upset the balance of the Ahaggar economy and to starve the Tuareg.

Times are cited during which a load of salt was exchanged for 15 loads of millet; on the average, the barter is carried out on the basis of five to eight loads of millet for one load of salt. The quantities exchanged are very small; they vary from a handful to two kilograms. Sometimes, but rather rarely, salt is sold to traders. With the money thus obtained, the Targui buys cloth, leather, a saddle, and several objects of domestic use, then starts back for the Ahaggar. It is now January; it will take three months before seeing the koudia again, for the caravan is laden and always stops at Tamesna, where there are celebrations, tendi, ilougan, and welcoming

439 /66 cont./ girls. The return of the millet caravans is the major event of the year. It is estimated that the millet imported from the Sudan constitutes two-thirds of the Tuareg's food. Once in the Ahaggar, the millet is stored in silos made of clay bricks, based on rock slabs so as to be protected from termites. These constructions, neither cylindrical nor conical, are a curious sight standing near the camps or the villages. The owners are sometimes absent, but no one tries to steal what could easily be taken.

Agriculture

423 [643] The chief characteristic of the land system in the Ahaggar is that the amenokal is, by virtue of his office, the sole owner of the land.

[651] Whoever wants to drill a foggara must first ask permission of the amenokal and must pay him a tax of ten kilograms of wheat per garden.

The garden is the unit of cultivation. One foggara irrigates from /67/ six to ten gardens. Any other surface unit would have no meaning since the size of the cultivated plot depends on the flow of the foggara, which varies according to the year and to the different agricultural centers. At Tamanrasset a foggara waters 3.80 hectares; at Tit, 3.30 hectares; at Ideles, 4.0 hectares. A garden's area, then, varies from 40 to 60 ares. The wheat harvest may amount to 400 kilograms per hectare; the tax in that case is about one-[651] fortieth of the harvest. Whether the owner of the garden is a Targui or a hartani, the tax (mek) is paid to the amenokal.

Trees planted in the gardens remain the property of the amenokal, for they are attached to the ground.

This inalienable possession of the land by the amenokal has enabled the Tuareg to conserve the rare cultivable lands in the Ahaggar. The force of their tribal custom saves them from their individual lack of foresight. Unfortunately, this right of the amenokal retards agricultural evolution and the maximum productive use of the lands of the Ahaggar, because the cultivator can never own the land he works. He has no

233 /85 cont./ When the Tuareg want to recapture some of these animals, they organize veritable battues and must use a great deal of cleverness and energy to succeed. It is necessary to break these donkeys in order to fit them for domestic use, for many of them are born wild.

It is estimated that there are 5, 000 donkeys in the Ahaggar, but this figure is certainly too conservative.

[262] The flesh of the donkey is not eaten, nor is the milk of the female drunk.

A few horses, most of them originating in the Sudan, are to be found in certain agricultural centers. A "luxury" animal, the horse (aïs) cannot live off the Ahaggar pastures. When well nourished with barley, it bears the climate perfectly well and can be used as a mount in the mountains of the Ahaggar where water points are numerous.

Lastly, chickens are raised by the harratin in all the
231 agricultural centers; they are lean fowl which find practically all of their own food. The harratin chiefly eat the eggs,
[439] rather rarely the meat, which is sold to the Europeans.

/87/ IV

Material Life

Dwelling

342 The Tuareg, as true nomads, use the tent for habitation,
281 and sometimes, in exceptional circumstances, the zériba.

The Tuareg tent is made of skins sown together and specially prepared. Its red tint, which harmonizes with the dominant tones of the Ahaggar landscape, is agreeable to the eye. For making the tent (éhakit), goat, sheep, wild sheep, and, very rarely, cattle skins are used; the skins of wild sheep are considered the best. After being stripped of its hair, the

103 /187 cont./ The French occupation created out of nothing
361 the built-up area which became a road center after the
621 creation of automobile roads from Tamanrasset toward In-Salah and Algiers;

from Tamanrasset toward Agadès and Fort Lamy;

from Tamanrasset toward Tin-Zaouaten and Gao.

Secondary roads of local or tourist interest were later opened:

from Tamanrasset to Djanet by way of Idelès and Serouanout;

from Tamanrasset to Idelès by way of Tarahouaout, Tahifet;

from Tamanrasset to In-Azaoua (not completed);

from Tamanrasset to the Asekrem massif by way of the Illamane peak (tourist);

from Tamanrasset to the Asekrem massif by way of the [491] Imalaoulaouen guelta and the Akarakar. This road, finished in 1952, makes it possible to circle around the high peaks of the Atakor; it /188/ completes the one mentioned just before. Its route, laid out by the head of the Tamanrasset annex, provides maximum protection against the rains; it discloses a succession of splendid panoramas and ends at the foot of the Asekrem plateau after having crossed the strangest assortment of peaks imaginable. This road is prolonged in the direction of the Issakarassen guelta, then will continue toward the Hirafok agricultural center to end in the Tefedest.

[439] Arab and Mozabite merchants very quickly installed themselves at Tamanrasset, offering merchandise coming from Tell and buying wheat, millet, and butter from the Tuareg, making usurious loans, in a word, draining away the Tuareg's small supply of cash to direct it toward the Mzab.

The houses are built for the most part on the right bank of the wadi in the nonirrigable areas. Tamanrasset has no local color whatsoever, but the red tint of the exterior plastering, the cleanliness and charm of the streets shaded by éthel and adorned by geraniums, produce a pleasing over-all

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abellengaḍ (*Reseda villosa*). Tr., L.M., U.M. Seeds of this plant are edible, but of bad taste – according to Foucauld 1951–52, I, p. 65.

abseɣ (*Acacia Raddiana*). Tr., (L.M.). Fruits are collected mainly for goat fodder, but are eaten by human beings when vegetable food is scarce. The fruit is then crushed into flour. The resin of this acacia is also edible.

tamat (*Acacia seyal*). Tr. The resin (*taymest*) is edible. I believe it is used mainly as a remedy against stomachache. This is perhaps also true of the resin of the *abseɣ*-acacia mentioned above.

ahtes (*Acacia albida*). Tr., L.M. "La gousse est même comestible pour l'homme" (Maire 1933, p. 120).

ténefé (*Tephrosia leptostachya*). Tr. "Les Touareg mélangent cette plante desséchée au thé vert" (Maire 1933, p. 125).

laɣul (*Alhagi maurorum*). Unknown in Ahaggar, but found in Tasilé-n-Ajjer. "Les racines tuberisées sont mangées par les indigènes (Killian)" (Maire 1933, p. 131).

alora (*Peganum Harmala*). Tr., L.M., U.M. An annual seed-plant. Seeds are used for *tébik*.

taburaḳ (*Balanites aegyptiaca*). Tr., L.M. A tree having edible fruits which are macerated in water to remove the bitter taste.

tedjoq (spelling according to Maire 1933, p. 241) (*Pistacia atlantica*). L.M. Very rare according to Maire (1933, p. 148). According to my own observations the fruit of this tree is eaten by Arab pastoralists (e.g., *Ulad Nail*) of the so-called *daya* region south of the Sahara Atlas. It is possible that it is also eaten by the Tuareg.

tahunek (*Rhux oxyacantha*). Tr., L.M. A tree having edible fruit.

téhaḳ (*Salvadora persica*). Tr. A tree with edible fruit.

tabakat (*Ziziphus lotus* var. *Saharae*). Tr. The berries are crushed and mixed with millet flour.

azawa (*Tamarix gallica*). Tr., L.M. "La manne produits par ces arbres est receuillié par les indigènes qui l'emploient comme matière sucrante. (Voinot)" (Maire 1933, p. 156).

tabarekkat (*Tamarix aphylla*). Tr. "Les rameaux mannifères sont employés pour sucrer l'eau" (Maire 1933, p. 159).

tafeltast (*Myrtus Nivellii*). (Tr.), L.M. "Les rameaux de ce Myrte sont récoltés par les Touareg, desséchés et exportés par sac entiers au Soudan et au Mzab, avec l'*Artemisia judaica* ssp. *sahariensis*. Ces deux plantes sont utilisées comme médicaments et comme condiments" (Maire 1933, p. 162).

awkal (*Cynomorium coccineum*). Tr., L.M. A plant yielding edible roots which are dried and ground into flour (cf. Maire 1933, p. 163).

aséyar (*Anethum graveolens*). (Tr.), L.M., U.M. An annual plant. Its seeds are used as a spice and for adding to tea.

takmézzut (*Teucrium Polium*). Tr., L.M. An annual plant used for adding to tea.

élel (*Nerium Oleander*). Tr., L.M. This plant is extremely venomous particularly so for camels, which die from eating its leaves. "La cendre de bois de *Nerium* est employée par les femmes du Tidikelt pour se faire engraisser. A cet effet elles mélangent un peu de cette cendre avec des dattes pilées et du beurre, puis absorbent ce mélange dans du leben" (Maire 1933, p. 170).

aɣellachchem (*Solenostemma oleifolium*). Tr. A perennial plant. Its leaves are used as a substitute for tea.

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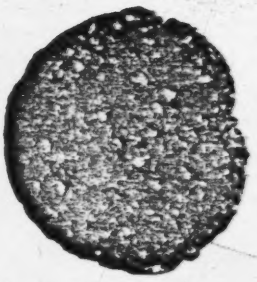

Fig. 126. A cheese-like mass of *adamam* berries (*Osyris alba*). The fresh berries are pounded in the large mortar (*tindf*) or are crushed between two stones to be formed into pieces of cheese form to be dried. This cheese-like mass of *adamam* berries is used by Tuareg women as a kind of face ointment against sun burn, pimples, and the like. They apply this ointment to the face as follows:— A little milk is poured upon a stone, the cheese-like mass of berries is rubbed against it, and the mixture of milk and berries is thereupon rubbed into the skin of the face with the fingers. Ahaggar, the *Dag Rali* tribe. Dimension: 0.075 m. (N.M. G. 5279a).

222
262 *enag* (*Leptadenia pyrotechnica*). Tr. A tree with edible fruit.

[272] *tañhart* (*Mentha longifolia*). Tr., L.M. An annual plant. Used as an aromatic for adding to tea.

awit, generally known by the collective name *awihat* (*Salvia Chudaei*). Tr., (L.M.). An annual plant used as an aromatic for tea.

[824] [262] *éfelehleh* (*Hyoscyamus muticus* ssp. *falezlez*). Tr. This plant is extremely venomous for human beings, though not for animals. In the past it was used by the Tuareg as a poison for enemies. Members of La Mission Flatters (1880–81) were poisoned by the Tuareg using poison of this plant inserted into dates presented to the expedition. "La plante, absorbée à petite dose, aurait la propriété de faire engraisser. Les femmes du Tidikelt l'emploient dans ce but, en en faisant cuire une petite quantité dans de l'eau avec de la farine et de la graisse; elles laissent réduire et absorbent la bouillie obtenue, puis se couvrent pour transpirer (Voinot)" (Maire 1933, p. 192).

[261]

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252 *ahahel* (*Cistanche Phelypaea*). Tr., L.M. A plant yielding edible roots. After drying the roots are pounded in a large millet mortar to be used for bread which is much esteemed by the Tuareg. "Cette plante est recoltée jeune par les indigènes, puis placée dans le sable sous une couche de *drinn* (*Aristida pungens*) jusqu'à noircissement et dessication. Le produit sec est moulu et utilisé dans l'alimentation (Voinot)" (Maire 1933, p. 196).

éfetekchi (*Orobanche aegyptiaca* & *O. cernua*). Tr., L.M. A plant yielding edible roots.

tamzellit (*Orobanche sp.*). Tr. Very rare. A plant yielding edible roots.

tegellet (*Colocynthis vulgaris*). Tr. Seeds are eaten after boiling and drying.

alked (*Cucumis pustulatus*). Tr. Rare. Seeds are eaten after boiling and drying.

[263] *takkilt* (*Cotula cinerea*). Tr. "Les Touareg utilisent cette plante comme condiment, principalement pour la viande qui commence à se gâter" (Maire 1933, p. 209).

[439] *téhereggelé* (*Artemisia judaica* ssp. *saharíensis*). Tr., (L.M.). "Cette plante, comme le *Myrtus Nivellei*, est récoltée en grande quantité, séchée et exportée au Soudan, où elle est employée comme aromate et condiment" (Maire 1933, p. 212).

[272] *zézzeré* (*Artemisia herba alba*). (Tr.), L.M. Used as an aromatic for adding to tea.

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243

Fig. 136. Irrigation of a young wheat-plot. The canal ridges are opened with a hoe in order to let water penetrate into the garden beds. Ahaggar, Abalessa.

to be used for dyeing skins red (cf. p. 282). Maize (*Zea mays*) is also grown as a summer crop in some of the cultivation centres; it is called *engafulé*, or *engafulé masri* (masri = Egyptian) because it is said to have been introduced from Egypt.

241 Tomatoes (*tomatem*; *Solanum lycopersicum*) are grown mainly in summer and constitute a very important crop. The ripe fruit is sliced and left to dry on a layer of straw in the garden. They are 252 crushed and pounded and are added to various dishes, e.g., the so-called kuskus (*keskesu*, cf. p. 247). Various types of melons and gourds are also grown in summer, e.g., the water melon (*talegezt*; *Colocynthis Citrullus*), a type of ordinary melon known as *tétakelt* or *tazenut* (*Cucurbita* sp.) which is frequently sliced and dried in the same way as tomatoes, and a kind of large gourd (*kabuya*; *Cucurbita maxima*). Certain other vegetables are grown in most gardens, notably various kinds of onions (*téskert*, *Allium sativum*; *éfeleli*, *Allium cepa*) and a kind of beans known as *tadellaḳ*. A few plants 263 are grown as spices, e.g., saffron (*tanerṃit*, *Crocus sativus*), red pebber (*chiṭṭa*, *Capsicum annum*), or for tea-admixture, e.g., the mint (*émeṛner*, *Mentha piperita* var.) and a plant known as *lahabok* which is said to have been introduced from the Sudan. Two very poisonous plants are also grown in certain 824 gardens of Ahaggar, namely *éfelehleh* (*Hyoscyamus muticus* ssp. *falezlez*), which also grows wild in the lower country (cf. p. 178), and *burzig* (*Datura Stramonium*) (cf. Maire 1933, I, p. 191 f.). Foucauld mentions two other plants grown for their medicinal value (*ibeḍliwen*, *Trigonella foenumgraecum*; *tikamnin*) (Foucauld 1951–52, I, p. 33 & II, p. 812). A kind of wild salad (*tamoghé*) is also grown in the gardens according to Foucauld (Foucauld 1951–52, III, p. 1170). Potatoes (*Solanum tuberosum*) 439 are now grown in some of the mountain oases – mainly for selling to Europeans at Tamanṛaset. Among other cultivated plants found in the gardens of Ahaggar mention can be made of the following species after Maire:—

Lepidium salicum, *Brassica Rapa* & *B. oleracea* (*aharet*), *Linum usitatissimum* (*ilatelé*, or *anarka*), *Medicago sativa*, *Pisum arvense* (*demchi*), *Vicia Faba*, *Lens culinaris* (*elṛedes*), *Vigna catjang*, *Cori-*

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tion that subsisted on agriculture. Most members of the *Kel Ewey* group are fairly negroid in appearance, and though some of them lead a nomadic life and subsist mainly on stock-breeding, the bulk of the *Kel Ewey* are sedentary agriculturists who have some livestock comprising goats, sheep, zebus, and sometimes camels also. Among the fair-skinned Tuareg of the *Kel Ferwan* drum-group there are very few sedentary agriculturists, though a few vassals have taken up irrigation agriculture in recent times. There are also agriculturists within the negroid group of the *Kel Ferwan* known as *Irawélen*. Some *Kel Ferwan* Tuareg have gardens cultivated by their slaves, but this is not customary nowadays when slavery is of little importance in Ayr. Contracts between pastoral Tuareg and cultivators are said to have been unknown until recent times when a few pastoralists have made contracts with cultivators. There seem to be no fixed systems regulating such relationships, but it is said to be common for the cultivator and the Tuareg to divide crops equally between them.

Though agriculture could be practised in Ayr without artificial irrigation there are no rain-grown crops within the Massif nowadays. The *foggara* system is unknown, and irrigation is done by raising water from shallow wells. The system of a pole and bucket provided with a counterweight known in Ayr as *asefian* has disappeared quite recently. It was used at many agricultural settlements of Ayr until a few years ago, and in parts of the country formed the only type of irrigation system at the time of the French occupation. One informant told me that in his boyhood about 35 years ago no other irrigation method was employed at Alarses, and this is in agreement with literature (cf. Capot-Rey 1953a, p. 322). At that time, however, the method of raising water from wells by animal traction (in Ayr *anu*, in Ahaggar *tanut*) was also practised at many settlements. It is unknown when it came to Ayr, but it is said to have been introduced from the north – probably from the regions of Fezzan and Tasilé-n-Ajjer from where the same system came to Ahaggar (cf. p. 187). It is now used at all settlements as the only type of irrigation system, and zebu-oxen are always used for traction. This was not so in the past when zebus were less common than to-day, and it is said that donkeys were then the common draught-animals. The irrigation of gardens is performed in much the same way as in Ahaggar. The water raised from the shallow well (*ánu*) is led through a narrow canal (*arelal*) to a large basin (*tisemt*) from where another canal (*duki*) leads to the garden (*afaraɣ*), which is divided into a number of beds (*éfenɣal*).

Cereals form the most important crops in Ayr. The common winter crop is wheat (*elkama*; *Triticum vulgare*), but also barley (*Hordeum tetrastichum* var. *pallidum*) is very widely grown. One crop of these two cereals is taken every winter, and it is said that the period of growth is about five months; sowing is done in October, harvest in March. Cereals are also important for summer crops. Both millet (*énélé*; *Pennisetum typhoideum*) and sorghum (*abora*; *Sorghum caudatum*) are grown, and millet, as we have seen, has a very short period of growth – only about two months (cf. p. 184). But though millet is most important as food for agriculturists and pastoral Tuareg alike, it is not widely grown because it is difficult to protect it from the numerous small birds and because, it is said, millet grown in Ayr is of a quality inferior to that of the Sudanese type. Most of the millet eaten in Ayr is therefore imported from Damergu by pastoral Tuareg. By far the most important summer crop grown in Ayr is maize (*Zea mays*), which is known to the Tuareg as *abora maser*, that is "Egyptian sorghum" (*abora* = sorghum; *maser* = Egypt) (the name *maser* is also used to designate the white cotton used for garments

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by many Tuareg, who say that they have not always known this white cotton, though indigo cotton has been introduced from the Sudan since very remote times). Maize has a normal period of growth of about three months, and two – in certain places perhaps even three – yields are taken in the hot seasons.

In addition to the above-mentioned cereals there are various kinds of vegetables grown in the Ayr gardens. Tomatoes (*tomatem*; *Solanum lycopersicum*) are grown at most seasons with the exception of the dry and very hot summer period (*éwilen*). Also common in the Ayr gardens is the sweet potato (*dankale*; *Ipomoea Batatas*), which is sown at the beginning of the rains and harvested in winter. The true potato (*batata*; *Solanum tuberosum*) has been introduced more recently, and is grown mainly to be sold to European households in Agadez. It is grown in Eastern Ayr (Tabello). Melons (*Cucumis melo*) and water melons (*Colocynthis citrullus*) are grown all over Ayr and there are different vegetables such as onions (*Allium cepa* & *A. sativum*), which are harvested at most seasons. Two plants are grown mainly because they are important as admixtures to porridge sauce. One is called *ékabewwa* (*Corchorus olitorius*); it has maize-like seeds which are pounded in a mortar for sauce-making. The other plant is known as *malokhiya* (*Corchorus tridens*); its leaves are dried and pounded for sauce (cf. p. 243). The latter plant also grows wild outside the gardens. There are in Ayr also certain spice-plants, e.g., *Capsicum annuum* & *C. frutescens*. To all these cultivated plants can be added certain fruit trees, such as the date palm (*talesdar*; *Phoenix dactylifera*), the fig tree (*takart*; *Ficus carica*) grown in the mountains, and the lemon tree (*lemon*; *Citrus aurantifolia*) which is grown in Southern Ayr; it yields very small fruit which remains green even when ripe. It should finally be mentioned that the cotton plant (*ebduga*; *Gossypium hirsutum*) is also grown in some gardens of Southern Ayr. According to Miré and Gillet it was introduced into Ayr by the Hausa, but the plant has also been introduced further north in the Sahara in Tawat (Miré & Gillet 1956, p. 244). As stated by Rodd, the cotton plant is rare in Ayr and has perhaps been recently introduced into this region (Rodd 1926a, p. 132). There are many other cultivated plants in Ayr, but the above mentioned constitute the most important species.

In Ayr, as in the north, irrigated cereals form the basis of agriculture. Irrigation is carried out by means of a system introduced from the north, and the agricultural techniques largely resemble those of that section of the Sahara inhabited by Northern Tuareg, though there are certain differences. A new garden in Ayr is prepared by cutting and burning away the wild vegetation of trees, bushes, herbs, and grasses. By crop rotation (wheat and barley in winter; maize, millet, and sorghum in summer) it is possible to cultivate the same garden plot for a few years in succession – up to six or seven years, it is said. After this time it becomes necessary to make a new garden, or to manure the old garden plot with camel and cow dung whilst manure (*taki*) from other animals or from human beings is said not to be used, as it would cause the crops to become inedible. A well-manured garden plot can be cultivated continuously for about fifteen years. But fertilizing is not practised by all agriculturists, and to my knowledge they do not carry fresh soil to the garden plots as is the case with the agriculturists of Ahaggar. Agriculture in Ayr therefore frequently resembles shifting cultivation, though plots are irrigated, and deserted garden land is frequently seen in the valleys where agriculture is practised.

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there will be one entirely dry year throughout, during which stock-breeding products have little or no value as food, and in such years of dry pasture there will also be very few wild plants to collect. Hunting, which plays little part for most Tuareg nowadays, is also of little value in an entirely dry year when many game animals die or migrate to other regions with more favourable pasture. It would seem obvious for pastoral Tuareg to do the same and to take their animals to grazing grounds outside of Ahaggar – particularly to the southern plains where pasture is normally better than in their own country. We have seen that most Ahaggar Tuareg in bad years have their she-camels far from Ahaggar in the Tamesna plains or in the country north of Adrar-n-Foras. We have also mentioned that, under very severe conditions, camps of Ahaggar and Ahnet may move to these southern regions with their flocks, though extensive goat-migrations are not always profitable. But most Tuareg remain in Ahaggar even in very dry years with their camps and flocks. Some of the animals will die, and none of them can be mated so that the flocks may rapidly decrease. During such years of drought the Ahaggar Tuareg live so to speak exclusively on agricultural food products of which they get only a part from their gardens grown by sedentary agriculturists (the *Harratin*, or *Izzegaren*). It is mainly through caravan trading that the Ahaggar Tuareg acquire their vegetable food products. Their two important trading expeditions to the Tidikelt oases and to the Sudan are carried out anually for the main purpose of acquiring dates and millet.

Trading with the Tidikelt oases (Awlef and In Salah) is based mainly upon a surplus of goats, camels, butter and cheese, and on dried meat. But many Tuareg who obtain large amounts of millet from the Sudanese trading expedition also sell part of their wheat grown in their own gardens in Ahaggar, and Sudanese articles bought during their south-bound trading expedition. In a dry year some Tuareg may choose not to visit the Tidikelt area as they have too small a surplus for trading. The south-bound caravans, on the other hand, are rarely prevented from going as their main trading object is rock-salt of an excellent quality mined at Amadror north-east of the Ahaggar Massif. Both north-bound and south-bound caravans will set off in autumn when the hottest season has come to an end, that is at the end of September or at the beginning of October.

The caravan route from Tamanrasset in Ahaggar to In Salah in Tidikelt is about 750 kilometres, and the route is rather difficult because pasture is normally lacking for three to four days of the journey. Most Tuareg who cross this part of the desert therefore bring with them large supplies of the dried *tullult*-grass (*Aristida pungens*), which also serves as fodder for the pack-camels during the stay in the oases around which there is little pasture. The journey takes about twenty days in each direction, and the north-bound caravans return to Ahaggar again already in December or in January.

The traders return with their camels loaded with dates of which a part may be re-sold in Ahaggar (Tamanrasset), but they also buy European cotton and other European articles, which are cheaper in the north, and woollen blankets woven by sedentary people of the northern oases.

The south-bound caravans are very extensive. The towns visited in the south are Agadez, Tawa Tanut, and Zinder. The distance from Tamanrasset to Zinder is, as the crow flies, about 1200 kilometres, while the distance from Tamanrasset to Amadror, where salt is mined, is about 300 kilometres. In total the caravan journey from Ahaggar to Zinder and back again for many Tuareg amounts to more than 3000 kilometres. The south-bound caravans are organized as follows:— Slaves take the

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Fig. 149. The market place of Agadez. In the front negroid Hausa men roasting small pieces of meat on a spit; in the background Tuareg camels offered for sale.

484 pack-camels to the salt pit of Amadror to mine salt in the hot season. They load the camels with salt
487 and bring them to the camp where further preparations for the journey are made. When the caravans
[317] have started southwards they stop in the Tamesna plains and rest there for at least one month to allow
[437] the pack-camels to feed on annual pasture, and, if necessary, to exchange the pack-camels with others kept by the Ahaggar Tuareg in Tamesna. Thereupon the caravan will continue towards the millet-
[221] growing towns and villages of the Sudan to bargain with the Hausa. The caravan returns to Ahaggar again at the end of March or at the beginning of April, so that the total duration of a south-bound caravan is up to six or seven months.

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439 The Sudanese millet trade is of extreme value to the subsistence of the Ahaggar Tuareg. It is particularly important to their economy that they obtain millet for non-nomadic products transported by camels, which are mainly bred outside of Ahaggar. The millet trade is consequently not much influenced by Ahaggar's changeable climate. According to official statistics, the Ahaggar caravans in 1946 exported 375 tons salt, and imported 720 tons millet, while the cereals grown in Ahaggar amounted to 197 tons (cf. Malaurie 1953, p. 344). According to Galan vegetable food grown in the gardens of Ahaggar in 1950 (a bad year) amounted to 121 tons wheat, 5 tons millet and barley, and 4 tons of tomatoes – about 10 kg of wheat and 0.5 kg of millet, barley, and tomatoes per person (Galan 1951,
[468] p. 233). We see from this that the amount of cereals acquired in the Sudan far exceeds the amount grown in Ahaggar, and as we have mentioned, the millet trade is also important for the establishment of Tuareg agriculture in their own country where this cereal is used for payments to cultivators. It can also be added that the Sudanese caravan trade is more important to the Tuareg than appears from
[435] the figures above. For salt is much more valuable than millet, and for one load of salt the Tuareg receive from four to fifteen loads of millet – in 1946 the price was fifteen to one (cf. Malaurie 1953, p. 344). It is evident that the Tuareg could not take all this millet back to Ahaggar. Most of it is re-sold

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in the Sudan for such articles as camel saddles, sandals, swords, millet mortars, indigo cotton, earthenware pots, and the like. The Tuareg may also buy quantities of butter and cheese for sale to the sedentary people of Tidikelt and for their own use in dry years.

The Sudanese trade constitutes the great stabilizing factor in the economy of pastoral Tuareg of Ahaggar. In return for the valuable rock-salt, pastoral Tuareg obtain the bulk of their agricultural food products (millet), butter and cheese for their own consumption in dry years, many important artefacts and notably their camel saddles and their millet mortars. They also get a surplus of millet and goods for investment in their Ahaggar gardens and for selling to the sedentary people of the Tidikelt oases.

There are certain Tuareg who do not engage in the Sudanese salt trade, notably those living in Ahnet; and these Tuareg nowadays have no irrigated gardens either. They acquire their necessary vegetable food products from Tidikelt (dates) and from Abalessa and Tamanrasset (wheat). They buy these vegetable products with their surplus of goats, sheep, camels, butter and cheese, and an occasional barbary sheep. In a good year they can meet their needs of food in this way, but it is most difficult for them to subsist in dry years; and it may happen that two dry years come in succession. When I stayed among the Ahnet Tuareg in 1954–55, all camps visited were very short of food, while the Tuareg of the Ahaggar Massif who engage much in the salt trade (the *Dag Rali* and the *Aguh-en-tehlé*) possessed what they needed of wheat, barley, dates, and millet.

To-day there is a rather important market at Tamanrasset where many Tuareg sell surplus livestock, and where they can also buy cereals and dates. But it is always profitable to sell livestock and meat in the Tidikelt oases where meat, butter and cheese are very expensive articles. Dates are cheap in these oases, European goods and woven blankets are also cheaper than at Tamanrasset. The trading expedi-

Fig. 150. Wooden measure (*mudu*) which contains one kilo of cereals, or the like. The Tuareg have adopted the kilogramme into their own weight system. The proper Tuareg unit is the *tasiwa* which, according to Foucauld, corresponds to three kilogrammes (Foucauld 1951–52, III, p. 1160), but nowadays the Ahaggar Tuareg count one *tasiwa* as equal to two kilogrammes and a half. The Tuareg have wooden or metal measures of *tasiwa* size, and there are also larger measures to be used for grain, dates, and the like. For units smaller than *mudu* the Tuareg sometimes use a wooden measure called *tamafast* which holds half a kilogramme. Smaller quantities are measured with the hand held half open, and it is recognized in Ahaggar that one *tasiwa* corresponds to 99 handfuls. In Ayr it is very common to use a little plaited bowl (*tifakemi*) as the smallest unit of measurement. Dimension: 0.140 m high, 0.125 m in diameter at the rim. (F.M. 168).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

tions have remained important to the Ahaggar Tuareg, and it is clear that they would not go on trading were these expeditions not profitable, for trading expeditions are extremely strenuous. Though the expeditions set off when the extreme heat is decreasing, it is still very hot in the extensive barren plains in autumn and in winter during daytime. Water and pasture are often extremely scarce in this deserted country, and the Tuareg frequently have to travel rapidly. For days or weeks they live so to say on their camels, and if camels are not too heavily loaded they may do up to 16 hours a day for several days in succession. Under such journeys the Tuareg eat only once a day. Obviously such trading expeditions are also very hard on the pack-camels, and there is always a risk of loosing a camel during such journeys through barren, desert country.

In this brief outline of caravan trading I have not considered those Ahaggar Tuareg living constantly in the Tamesna plains and adjacent regions. These Tuareg own more livestock than the Tuareg of the Ahaggar Massif, and I do not believe that they engage so much in extensive trading expeditions. They are comparatively rich in she-camels which are tolerably good milk yielders in these regions most of the year, and milk is more important as food than it is in Ahaggar. I believe that most Ahaggar Tuareg of the Tamesna region acquire their necessary vegetable products by selling surplus livestock, butter and cheese at the markets of Ingal and Agadez.

CARAVAN TRADING OF THE AYR TUAREG

Among the Ayr Tuareg stock-breeding products are far more important for food than in the north. Grazing conditions are better with annual pasture as a recurrent event, and the Tuareg keep bigger flocks of goats and sheep, larger camel herds, and most have a few zebus which are guarded without much difficulty. The *Kel Ferwan* Tuareg of Southern Ayr can live on milk for a large part of the year, though they, like those of Ahaggar, become tired of milk drinking if they get no solid food. There are Tuareg of Southern Ayr who live exclusively on milk for two or three months during the periods of *okasa* and *rarat* and to whom milk is important as food for at least six months. In the extremely hot season of *ewilen* when milk is very scarce most Tuareg eat millet porridge with a little milk or sauce (cf. p. 242 f.), and Tuareg who are not very wealthy eat millet porridge to a great extent all the year round, so that the necessary amount of millet for many camps is about 0.5 kilo a day per person, or about 180 kilos a year. In Ayr there are fairly good possibilities of collecting if there are not too many locusts, but most Tuareg do not collect a great quantity of wild seeds, and claim that they would be very badly off without millet, as seeds of wild plants are not very nourishing in comparison. In one year during the second world war (in 1943) they say that millet was very hard to get; it was then very difficult to subsist and a great many animals had to be killed for food. Millet is almost indispensable to the Tuareg; they also consume other vegetables derived from agriculture, notably wheat, maize, and dates, but millet is the most essential non-nomadic food product. Normally it can be acquired by most Ayr Tuareg without much difficulty.

The people of Ayr obtain their provisions of millet from the Sudanese area of shifting cultivation, notably from Damergu (Tanut). Millet can also be bought at Agadez whereto it is brought by Tuareg

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caravans of the south or by Ayr Tuareg who import more millet than they need for their own use. But millet is cheaper in Damergu than at the Agadez market, and most Tuareg prefer to organize their own millet caravans with camels and donkeys as pack-animals. In Damergu most Ayr Tuareg get millet in exchange for livestock or they buy it for money. Their caravans are not always very large, for the Southern Ayr Tuareg of the *Kel Ferwan* group do not organize their caravans co-operatively on the basis of kinship. Many individual households fetch their own millet with a few animals, and it is comparatively easy to do so as the millet growing country of Damergu is not very far away – the distance from Agadez to Tanut is only about 300 kilometres. The Ayr Tuareg do not have to engage in extensive trading expeditions to procure millet, and can buy millet very cheaply. A household, it is said, does not have to sell a great many animals to secure the necessary supply of millet. Three or four camel loads will cover the needs of most households, and this amount of millet can be acquired for comparatively few animals – particularly if the animals vended are sheep, which have become very expensive in recent times owing to the rapid increase of Europeans at Agadez. An extremely good sheep or ram for slaughtering can bring in 2000 to 3000 West African francs, and a Tuareg household which buys millet in Damergu will need less than 10,000 francs to acquire the quantity necessary for a year. Thus the Ayr Tuareg can obtain their millet for a few sheep, and there are very few, if any, who do not posses this surplus, and it should be repeated that the increment of livestock is never stopped by drought periods as in the north. The extremely high price for sheep for butchering is a recent phenomena due to the increase of the French population. Fully-grown sheep or rams are expensive, and this is also the case with fowls, while goats are cheap. I believe we can estimate that a household would have to sell about 15 goats anually to obtain the amount of millet necessary for one year's consumption. However, there is little doubt that it has always been quite easy for the Tuareg of Southern Ayr to obtain the requisite amount of millet in exchange for livestock.

Millet and milk constitute the basic nourishment of the Ayr Tuareg, but they are very fond of an occasional change of food. And I believe that this is one important reason why the Ayr Tuareg, like those of Ahaggar, collect wild seeds even in years when grown cereals are abundant. For a change, the Ayr Tuareg are also extremely fond of dates which are not grown to any great extent in their own country. A few Ayr Tuareg own palms yielding dates of poor quality, and I think that a few households also obtain some dates from Ingal. However, most dates eaten in Ayr are imported from the oasis of Bilma, situated in the very barren desert country between Ayr and Tibesti, about 700 kilometres north-east of Agadez.

The trade with Bilma is apparently an ancient one, and its foundation is salt which is of a very bad quality compared with that mined at Amadror in the north. The rock-salt of Amadror is excellent for food, and though there is one good quality of Bilma salt that is used for food by the Tuareg of Ayr, most salt from Bilma contains much soil and other impurities. This impure salt is excellent for domestic animals which, in Ayr and further south where salt pastures do not exist, need a lot of salt. The Ayr Tuareg, and particularly those who do not visit the country of Azaouar at the end of the rains, need salt not only for their own food but also for their domestic animals. They obtain this from Bilma, which is visited by caravans in autumn or in the early winter. The inhabitants of Bilma, like other oases-dwellers, are in constant need of cereals and meat, and these products are imported

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by the Tuareg of Ayr, the *Kel Geres*, and other Tuareg. The Tuareg obtain salt generally in exchange for millet, but they also bring with them dried meat, and meat from animals newly slaughtered; and although this meat is largely rotten when it arrives at Bilma it is easily sold to the oases dwellers who are yearning for meat. The oases dwellers have little to subsist upon but dates of which they have a surplus. This is purchased by the Tuareg, who get two loads of dates for one load of millet. The Bilma trade is less important nowadays than it was at the beginning of the century. In 1922 the Bilma caravans comprised about 7000 camels (Buchanan 1926, p. 83), while in 1908, when the trade was already decreasing, caravans numbered about 20,000 camels (Abadie 1927, p. 292). Caravans still go to Bilma to fetch salt and dates, but the salt trade is not so profitable to-day when Bilma salt can be bought fairly cheaply at Agadez, as the trucks bringing provisions from Agadez to the French administration and to the merchants of Bilma, take salt back with them when they return. The Ayr Tuareg do not organize their trading expeditions within family groups or sections as in Ahaggar. A Tuareg who does not want himself to go to Bilma may let a kinsman or a friend trade for him with his camels. The payment for this is a large loaf of salt which constitute one sixth or one seventh of a camel load.

The Ayr Tuareg do not generally obtain salt from the pits of Tegidda-n-tésemt though this place is not very far from the Massif to the west. They say that the Tegidda salt is not as good as Bilma's. The salt of Tegidda-n-tésemt is purchased mainly by the *Iwillemmeden Kel Dennek* when visiting the regions around Ingal after the rains. Some of the *Kel Ayr* who live in the extreme north (the *Kel Tédalé*, and others) occasionally go to Amadror in the north to fetch salt which is taken down to the Sudanese towns and villages. In years when drought prevails in Ahaggar these Tuareg take their surplus of livestock to the market at Tamanraset, for in dry years the provision of meat, butter, and cheese consumed in Ahaggar come mainly from Ayr and adjacent regions. When I stayed in Ahaggar in 1954–55 a great many Tuareg of the *Kel Tédalé* came to Tamanraset to sell camels, donkeys, sheep, goats, and zebus, and also brought with them large quantities of cow's butter and cheese. The route followed from Northern Ayr to Ahaggar runs via I-n-azawa and I-n-abeggi which are the only wells between the two mountain massifs. Water is very scarce and so is pasture, which is mainly limited to a scattered vegetation of annual plants; over very large areas there is no vegetation at all. It is easy to drive camels and donkeys through these regions, while more difficult for sheep, goats, and cattle. The zebus easily get cut hooves from walking on stony ground, while sheep and goats suffer much from thirst. In spite of this, all kinds of livestock can be driven through the barren desert from Ayr to Ahaggar, even as late as the month of March which is extremely hot in the barren desert country. The Tuareg frequently lose animals which die from thirst and hunger during the journey, but the trade is nevertheless extremely profitable as prices of livestock are high in Ahaggar in dry years, while prices of European goods such as tea, sugar, cotton, metal vessels, and the like are extremely low compared with the prices asked for these goods in Ayr.

The Ayr Tuareg, though owning more livestock than the Tuareg of Ahaggar, have a certain demand of agricultural food products. These products are mainly grown outside of the Massif, for the farmers of Ayr grow little millet, very few dates, and part of the wheat grown in Ayr is exported to the oases of Ganet and Rat in the north. Though these vegetable products can be purchased at Agadez, it is profitable to fetch them where they are cheap, namely in the Sudan (millet) and in Bilma (dates). And

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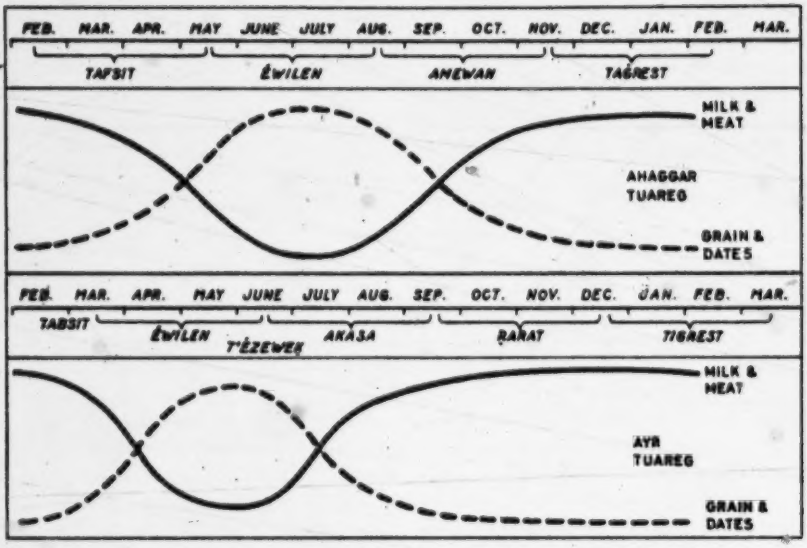
433 262 805



[511] [824]

Fig. 151. The relative importance throughout the year of food derived from stock-breeding and vegetable products mainly comprising agricultural products. The curves describe conditions in good years for wealthy families. However, milk (and meat) is less important to most Ayr families than indicated in the diagram which covers a household making use of the particular type of annual pasture which remains green throughout winter, notably *ahwat* (*Schouwia purpurea ssp. Schimperi*) *adreylal* (*Astragalus Vogelii*), and *tagellat* (*Colocynthis vulgaris*). – This diagram should be compared with Fig. 14 where climatic and botanical changes throughout the year are outlined.

433 439 it is remunerative to buy an extra supply of millet in Damergu and to exchange it for dates and salt at Bilma. Caravan trading is a source of profit to the Ayr Tuareg, but most of them ultimately acquire their agricultural food products in exchange for stock and stock-breeding products. Very few of them mine salt at Amadror, and most of them obtain salt in return for millet bought for domestic animals in Damergu, or for meat of domestic animals butchered in Ayr. The Tuareg cannot easily subsist without agricultural products but they can obtain them in exchange for their livestock.

233 166 [184] We see again that conditions of stock-breeding are very favourable in Ayr in comparison with those of Ahaggar and in Tasilé-n-Ajjer, where frequent drought periods make it difficult for the Tuareg to exist. It is easily understandable that the favourable grazing conditions of Ayr have caused many Tuareg of the north to migrate southwards. These migrations take place even to-day and have gone on for centuries (cf. p. 411 ff.). However, even in Ayr it is most difficult to subsist without cultivated cereals (millet), and we must do away with the myth that pastoralists of North Africa live entirely on milk and meat from their animals – they do not. This is true for all Tuareg I have visited, including

433 262

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175 721 added that wars were not confirmed to fighting between these large political groups, for there was also fighting within these groups at intervals.

[648] [578] The Ayr Tuareg had as their main enemies the Tebu, the Eastern *Iwllemmeden* and the Arab pastoralists of the Tawa district. In Ayr there were also sharp disputes between various drum-groups of the Ayr federation, notably between the *Kel Ferwan* and the *Kel Faday*. The *Kel Faday* Tuareg frequently joined forces with the *Kel Dennek* in fighting the *Kel Ferwan*.

[437] Throughout the 19th century there was a risk of severe trouble everywhere in the Sahara with adjacent regions, but caravan trading was most important to Tuareg subsistence at that period in spite of these latent conditions of hostility.

175 437 Great caravans then crossed the desert carrying gold, ivory, ostrich feathers, and slaves from the Sudan to the Mediterranean, and south-bound caravans traded with salt and Arab and European goods. The Tuareg had their important part in these large trading expeditions, and they traded with their surplus of livestock and stock-breeding products much in the same way as they do nowadays. They acquired dates and millet from the sedentary farmers who were in constant need of meat, butter, cheese, and the like.

175 437 404 The organization of caravan trading among the Ahaggar Tuareg was different in the past. To-day the normal trading units are tribal sections, and this was probably also true in pre-European times, but these trading units did not travel independently as they do nowadays. Several tribes of the same drum-group travelled together under the leadership of a noble Tuareg of the dominant tribe of their chiefdom. When the Ahaggar Tuareg had no severe disputes with the *Ulad Ba Ḥammu* who dominated the Tidikelt oases, they traded with their population of sedentary farmers much as they do nowadays.

[439] They brought livestock, butter, dried meat, and Sudanese goods which were bartered for dates and Arab goods. The Ahaggar Tuareg also traded southwards, but they say that they did not go further south than Agadez, as it was considered dangerous to penetrate too far into the Sudan. They also

[438] say that they did not trade with salt until a few years before the arrival of the French, and that the important trading object before that time were donkeys, of which there was a shortage in Ayr. All

[317] this seems to agree with Duveyrier's statement that the salt deposits of Amadror were not utilized in his time owing to insecurity, though he says that the deposits situated on the caravan road from Wargla to Agadez had formerly been mined (Duveyrier 1864, p. 143 f.). As to the caravan trade of the Ayr Tuareg, I believe that it was very much as it is nowadays, comprising trading expeditions to

[361] [162] the millet-growing Sudan and to the Bilma oasis. It is most possible that the Ayr Tuareg also then travelled in larger units to protect themselves and their goods, for the *Kel Ferwan* Tuareg say that in the past camps were always bigger than to-day, as a camp consisting only of three to five tents could not defend itself against raiders.

175 587 [648] [177] It is known that the slave trade was carried on until the arrival of Europeans and in certain parts of the Sahara even later. Both the *Kel Ahaggar* and the *Kel Ayr* claim that they engaged in slave trading until it was abolished by the French authorities. However, it seems as if the Tuareg never engaged in this trade to the same extent as the Arabs. This is stated by Bissuel in regard to the Tuareg of Ahnet who bought their slaves from the market of Timbuktu. In general they kept these slaves for their own use, in contrast to the Arabs of Tidikelt who traded with slaves on a very large scale (Bissuel

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252 *415 412 439 291 516

Fig. 192. Tuareg woman cooking millet porridge. Ahaggar, the *Aguh-en-tehlé* tribe. The cooking pots seen on this photograph are bought in the Sudan on trading expeditions. Sudanese pots are superior to those made in Ahaggar.

264 most Tuareg dishes they are eaten from a large wooden bowl. If meat is cooked with the soup it may be broken into small pieces to be eaten with the balls, but part of the meat cooked is always eaten separately. The Tuareg eat *keskesu* with spoons, but if spoons are lacking they also eat it with the 262 hand, as do the Arabs. In addition to *keskesu* with its small balls which resemble grains of rice, the Northern Tuareg have another dish prepared in the same way but with larger balls. It is termed [189] *tikhemmezin* and is considered inferior to the *keskesu*. – Both these dishes are unknown to the Ayr Tuareg of the *Kel Ferwan* group.

262 Two particular dishes are mentioned from Ahaggar by Foucauld. One of them is called *iberǧan* 252 and consists of unripe barley boiled in its own juice without water. The other one is known as *abezbez* [267] and is made from tender plants of wheat and barley which are dried and pounded or ground into powder, to be eaten, boiled or unboiled, in periods of famine (Foucauld 1951–52, I, p. 89, 118).

Tuareg vegetable dishes are frequently prepared in a very simple way. Thus there is a dish known as *twes* (Ahaggar) or *tewes* (Ayr) which consists of entire seeds of millet or sorghum boiled in water. It is eaten mainly by children who frequently walk about the camp eating these boiled grains from their hands.

252 It is clear from the description of vegetable dishes that the cooking pot plays an important role for *415 food preparation, and all dishes prepared in this way, including cooked meat, are known to the Tuareg

Crafts

Tuareg crafts clearly disclose traits belonging to distinct cultural levels. This may be seen from a brief description of the methods of fire-making.

Matches are in ordinary use nowadays, but they are used economically not only because they cost money but also because many Tuareg live far away from towns or trading posts where matches can be obtained. The embers of a fire smoulder for a very long time, and when the Tuareg want to light a fire they normally find embers under the ashes where their fire has been. Glowing wood is carried from one tent to another on a fragment of calabashes or earthen pots, and some Tuareg even take fire with them in this way during nomadic migrations. If a new fire has to be lit and matches are not available, most Tuareg use the well-known method of fire-making by means of flint and steel. This method is widely resorted to in Northern Africa even to-day, and is practised among the Tuareg of Ahaggar as follows:— The curved piece of steel (*énefed*) is placed over the three middle fingers of the right hand. It is struck against a small piece of flint (*tafarast*) held between the first and second fingers of the left hand together with a small piece of lighting material which may be a small piece of cotton cloth. However, the best lighting material (*tajjert*) is a piece of wood of *tefé'ryast* (*Echinops Bovei*), which has been boiled and thereupon beaten into a fibrous mass with a stone. The Tuareg keep this lighting material in a particular leather bag (*tarallabt*) together with the steel and one or two pieces of flint (Fig. 198). Lighting material according to Maire is also made from a plant named *térahit* (*Traganum nudatum*) (Maire 1933, p. 82). The spark produced by striking the steel against the flint causes the lighting material to glow, and after blowing on it or swinging it in the air, it is placed under a small bunch of hay which burst into flame after further heavy blowing. The use of flint and steel is not a very difficult method of fire-making, and I have used it myself on journeys when matches had come to an end.

The Tuareg do not generally use more primitive methods of fire-making nowadays. But they know an ancient method of making fire by rubbing a piece of hard wood (*agar* in Ahaggar, *agar* in Ayr; *Maerua crassifolia*) against a piece of soft wood (*turha* in Ahaggar, *turza* in Ayr; *Calotropis procera*). By this process they produce by hand rubbing a glowing dust which is brought into flame by means of lighting material and hay as described above. One of my informants among the Ayr Tuareg had produced fire according to this method. Lhote states that the method is at times used by the Tuareg of Ahaggar, where the hard ribs of date palm leaves are also used for starting a fire by rubbing (Lhote 1955a, p. 258).

Stone materials play a very little part in Tuareg crafts. Natural stones are used occasionally as

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Fig. 203. Earthen incense jar (*elbakkhar*). Ahaggar, *Harrats* at Abalessa. Dimension: 0.179 m high. (N.M. G. 5889).

512). Most pastoral Tuareg of Ayr get their pots from Agadez, but pots are also imported from the south where they are of superior quality. These pots are said to be manufactured by black-skinned *Igdalen* Tuareg (cf. p. 432) of the southlands, notably by people of the *Ikenawen* class which comprises professional pot-makers. These people are not found among the *Kel Ayr* but are common in camps of the *Kel Geres* where I have met them. They speak *tamachek* but also have their own language which is said to be related to *Songay*. The pots made by these southern people are painted and decorated (cf. Fig. 205) in contrast to those of Agadez which are plain and of very simple forms (Figs. 204a–b). So far as I am aware painted and decorated pottery is rarely manufactured in Ayr nowadays. But Rodd states that such pottery in the form of pitchers with a blue design is made near Agadez (Rodd 1926a, p. 160 f., pl. 22 p. 209), and when I investigated ruins of stone houses at Iferwan I found a great many sherds of finely-decorated painted pots which must have been used up to the end of the great Tuareg revolt in 1917 when these houses were destroyed by the French. Lhote has also mentioned the decline of pottery techniques in Ayr, and he states that, apart from little incense jars, no painted and decorated pots are manufactured at Agadez nowadays (Lhote 1950c, p. 511).

Certain metal receptacles were known to the Tuareg long before the European occupation, notably a cooking pot (*érir*) made from copper, and the flat drinking bowl (*tamennast*) made from tinned copper or brass in Tripolitania, or in Tunisia. Metal receptacles are also manufactured by native blacksmiths in Tuareg country, e.g., the pail (*érir*) to be used for liquid butter (Fig. 164).

The blacksmiths are excellent wood-workers and make most wooden domestic utensils used by pastoral Tuareg (Figs. 21b, 37, 38, 58, 60, 61, 62, 63a–b, 75, 150, 153–154, 166, 176, 177, 178, 191, 194, 195, 212a, 219a–b, 285). The main implements for wood working are axes and adzes (Figs. 206a–d).

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237 Ayr Tuareg a piece of ram's horn may serve as an amulet case attached around the upper arm. Horns
* [415] of barbary sheep are used for butter containers among the Northern Tuareg (cf. p. 223; Fig. 165), who sometimes use a piece of pointed gazelle horn for daubing antimony around the eye.

281 The Ahaggar women cut skin and leather with a small knife (*telmusit*), and a piece of wood (*asettenu*)
462 and/or a stone (*taẓẓet*) are used for smoothing the skin which is then placed upon a particular wooden
[443] board (*elkeyleb*) (cf. Figs. 219a-d). The Ayr Tuareg do not make so much refined skin work. Women
* [445] among the Northern Tuareg conserve their implements for skin and leather work in a particular bag (*askagen*) which is made from leather attached to a bottom piece of horn (*isek*) (Figs. 220a-g).

[531] Northern Tuareg women take a great interest in their skin and leather artifacts, which are richly decorated with fringes and hanging tassels, and with geometric designs in different colours. I have
386 noted the following colours among the Tuareg of Ahaggar and Tasilé-n-Ajjer:—
822 (1) *baba*, indigo which is introduced from the south in the form of balls.

(2) *tawnkent*, which is also known as *tafidet* and *taneẓẓeft* according to Foucauld 1951-52, IV, p. 1934. It is a yellowish mineral which yields an entirely black colour frequently seen on ornamented skin bags. The mineral according to the Ahaggar Tuareg is introduced from the south, while the Tuareg of Tasilé-n-Ajjer claim that they obtain their minerals of this type from Serdeles north-east of Rat. – A black colour which is also known as *tawnkent* is said to be made by the Tuareg of Ahaggar in the following way:— Pieces of iron are put into water contained in some small receptacle, usually a tea glass. This receptacle containing water and iron pieces is covered with a bowl or a similar object in order that the sun light cannot penetrate. After a few days the water turns into a black colour to be used for skin dyeing.

(3) *semento*, a green colour derived from a mineral or a powder introduced from the south. According to some Tuareg this green colour is also made by means of a vegetable powder introduced from the north, from the region of Mzab.

(4) *khodarbas*, a powder which yields a green colour. It is said to be introduced from the south (from Tawa) and to derive from a tree known as *tafnit*.

[824] (5) *errummun*, the fruit of the pomegranate tree known as *terrummunt* (*Punica Granatum*). It is used with a white mineral (alum), known as *aẓref n Tawat*, and introduced from In Salah. Parts of the pomegranate fruit and of this mineral are mixed with water to be used for a yellow or yellow-brown dye which is applied to many decorated skin bags for ground colour.

(6) *temesaruak*, a mineral introduced from the north (Mzab). It produces a yellow colour.

[243] (7) *herki*, a reddish brown colour obtained from a particular type of sorghum known as *tallak* grown in the cultivation centres of Ahaggar.

(8) *tédersé*, a white colour obtained by placing the skin for about three days in a container with fresh milk to which a little salt is added. – Among Tuareg of Tasilé-n-Ajjer I was told that a white colour is also obtained from a kind of powder introduced from the Sudan.

386 Before use these above mentioned colours or dyeing materials are generally dissolved in water
[631] contained in a tea glass. When they are employed for the very fine geometric designs of leather bags they are daubed with a small knife known as *telmusit* (Fig. 219b).

● [439] It is interesting that most dyes used by the Northern Tuareg are introduced from the north or from the south,

[text continues on p. 284]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

never manufactured by noble women, but noble Tuareg obtain this footwear from vassals, or have them made by their slaves. Lhote states that *imerkeden* sandals in the past were more common among the noble Tuareg of Ahaggar (Lhote 1952a, p. 605). *Imerkeden* sandals are very common in Tasilé-n-Ajjer. They are said to be known among the *Kel Ewey* Tuareg under the name *tadakat*. The *Kel Ferwan* Tuareg say that they have a related type, but this I have never seen. The *Kel Ferwan* Tuareg almost exclusively wear sandals of *takalmi* type.

A third main type of sandals is that known to most Tuareg as *tagliezez*. Like other sandal types it is described in detail by Lhote in his study on Tuareg sandals (Lhote 1950d, p. 512–533). Sandals of this type are generally made from one piece of hide or leather which is bent up over the toes. The system of attachment consists of a leather strap attached to the bent-up flap of the sole and passing around the heel through two loops at the back of the sandal. These sandals are extremely common all over the steppes and savannahs of the south, and in Ayr they are used among the *Kel Ewey* and other Tuareg who make them from untanned hide of oxen. In Northern Tuareg country this sandal type is rare and generally not used by pastoral Tuareg who do not manufacture them. However, a pair of sandals resembling this type was brought from Ahaggar to the National Museum of Copenhagen by Olufsen (museum number G 1.8) (Fig. 243). Sandals of *tagliezez* type are nowadays used by many sedentary people of Tamanrasset in Ahaggar. They are esteemed by Europeans and by Tuareg and Arabs of the camel corps in Northern Tuareg country. But the sandals worn by the last-mentioned people are manufactured by professional craftsmen. The sandals illustrated Fig. 244 were bought at the market of Agadez, but derive from the south – from Sokoto it is said. I have noted their name as *akeroga*. – The type of sandal here called *tagliezez* is known to the Ahaggar Tuareg as *téfedilt* (pl. *tifedilin*) (cf. Foucauld 1951–52, I, p. 304).

A fourth type of sandal is described by Lhote under the name of *éfekil* (pl. *ifekilen*). It is made of a single piece of untanned hide which is treated as described above for the *takalmi* type, and Lhote thinks that this type of sandal, which is common in the south among poor people, is the most primitive type. Lhote believes that the same type occurs also in Ahaggar because the word *éfekil* is mentioned by Foucauld in his dictionary (Lhote 1950d, p. 525 f., Fig. 18). This does not seem to be correct, for the word *éfekil* (pl. *ifekilen*), according to Foucauld, is used synonymously with *émerked* (pl. *imerkeden*) (Foucauld 1951–52, I, p. 313).

Lhote writes that the sandals worn by the Tuareg can be divided into three main types, namely the *ératim*, (or *takalmi*), the *émerked*, and the *éfekil*, and that these three types correspond to different types of environment, namely desert, mountain, and steppe (Lhote 1950d, p. 528 f.). Perhaps one should substitute the word *éfekil* with *tagliezez*. There seems to be a certain correspondance between footwear and environment, but it should be added that the distribution of sandal types cannot be explained solely by reference to natural conditions. The *ératim* (or *takalmi*) type of sandal, for example, is used throughout Tuareg country from the Sudan to the central and northern parts of the Sahara, an extremely large area comprising great environmental differences. Nor are they suited to all types of desert. They quickly wear out when used on stony ground, and it is very tiring to wear them when walking through deep sand as the broad soles do not bear upon the surface. The *émerked* type of sandal is doubtless the best for walking in mountains, for it is fixed firmly to the foot and its sole of

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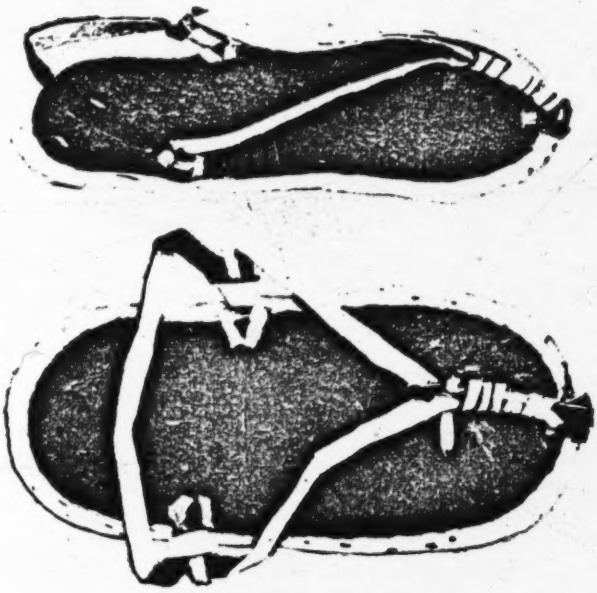

[439] Fig. 244. Sandals known to the Ayr Tuareg as *akeroga*. Bought at Agadez, said to be manufactured at Sokoto in Nigeria. Similar sandals were very common among the *Kel Ataram* Tuareg I saw near Ayoru on the Niger. Dimension: ca. 0.29 m. (N.M. G. 6641).

291 tanned skin does not so easily slide upon the rocks. But sandals of this type are used by a great many
182 Tuareg who do not live in proper mountain areas. The distribution of cultural traits can rarely be explained by mere reference to environmental factors.

292 A most interesting type of footwear, known to the Northern Tuareg and to those of Ayr, is a kind of skin-stocking which is worn with sandals in the winter. I have never myself seen it among the Tuareg and though it has been described in literature published prior to my investigations I failed to enquire
[119] about its use and manufacture. The fact that I have not seen Tuareg skin-stockings does not prove that they are rarely used, for while I have stayed among the Tuareg throughout five summer seasons I have only been among them for one winter, when I mainly lived in the lower parts of the Ahaggar Massif. Most Tuareg I met that winter went barefooted or wore sandals, and those who wanted an extra protection against the cold wore various types of European footwear and stockings.